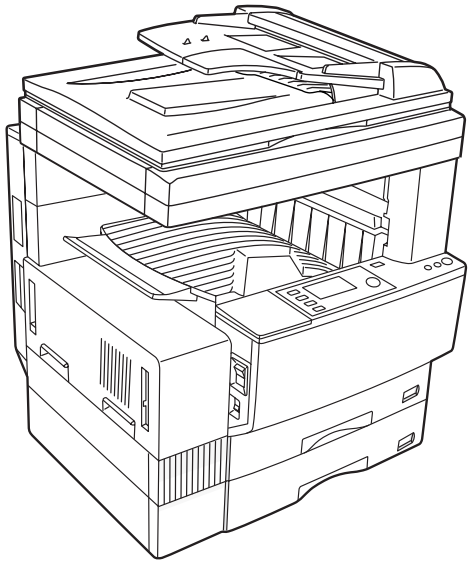
SHARP SERVICE MANUAL

CODE: 00ZARM208/A1E



DIGITAL LASER COPIER/ PRINTER
(For U.S.A)

MODEL AR-M208

CONTENTS

This Service Manual describes only the differences from 00ZAR275//A1E. The items which are not described in this Manual are common with the 00ZAR275//A1E.

[1] NOTE FOR SERVICING. 1-1

[2] SYSTEM CONFIGURATION 2-1

[3] SPECIFICATIONS 3-1

[4] CONSUMABLE PARTS 4-1

[5] UNPACKING AND INSTALLATION 5-1

[6] EXTERNAL VIEW AND INTERNAL STRUCTURE 6-1

[7] ADJUSTMENTS, SETTING 7-1

[8] SIMULATION 8-1

[9] TROUBLE CODE LIST. 9-1

[10] DISASSEMBLY, ASSEMBLY AND MAINTENANCE 10-1

[11] OTHERS. 11-1

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

CAUTION

This product is a class 1 laser product that complies with 21CFR 1040.10 and 1040.11 of the CDRH standard and IEC825. This means that this machine does not produce hazardous laser radiation. The use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This laser radiation is not a danger to the skin, but when an exact focusing of the laser beam is achieved on the eye's retina, there is the danger of spot damage to the retina.

The following cautions must be observed to avoid exposure of the laser beam to your eyes at the time of servicing.

1) When a problem in the laser optical unit has occurred, the whole optical unit must be exchanged as a unit, not as individual parts.
2) Do not look into the machine with the main switch turned on after removing the developer unit, toner cartridge, and drum cartridge.
3) Do not look into the laser beam exposure slit of the laser optical unit with the connector connected when removing and installing the optical system.
4) The middle frame contains the safety interlock switch.
   Do not defeat the safety interlock by inserting wedges or other items into the switch slot.

Warning!
This product is a class A product.
If it is operated in households, offices or similar surroundings, it can produce radio interferences at other appliances, so that the user has to take adequate countermeasures.

CLASS 1 LASER PRODUCT

LASER KLASSE 1

LUOKAN 1 LASERLAITE

KLASS 1 LASERAPPARAT

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING

OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

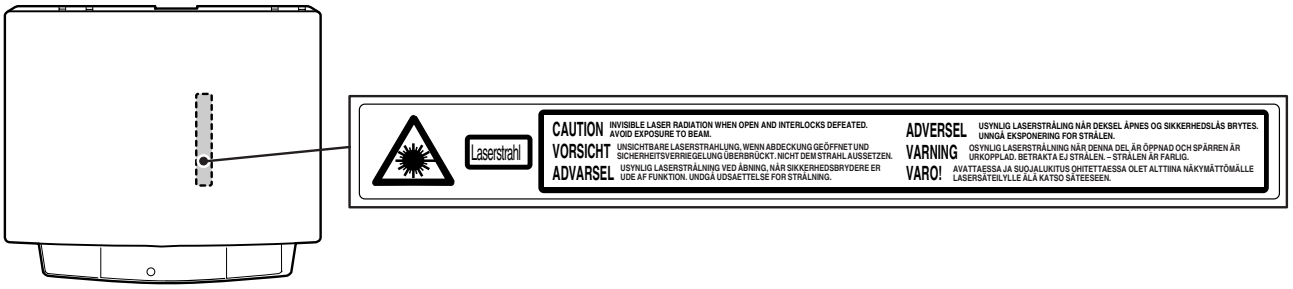
CAUTION
INVISIBLE LASER RADIATION,
WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

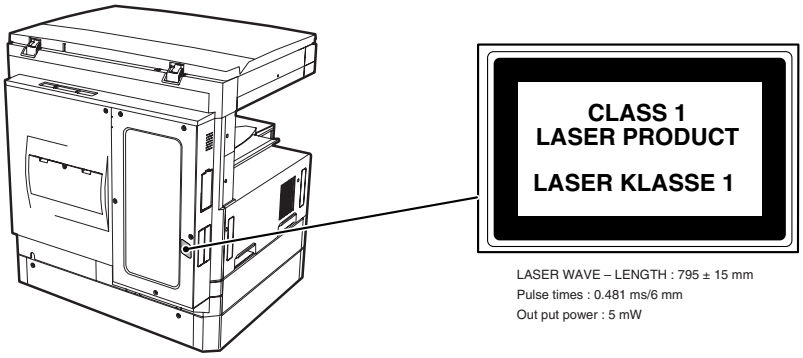
VORSICHT
UNSICHTBARE LASERSTRAHLUNG,
WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.

VARO !
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

ADVARSEL
USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.

VARNING !
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN. – STRÅLEN ÄR FARLIG.


Laserstrahl
CAUTION INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
VORSICHT UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
ADVARSEL USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.
ADVERSEL USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARNING OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN. – STRÅLEN ÄR FARLIG.
VARO! AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.



LASER WAVE – LENGTH : 795 ± 15 mm
Pulse times : 0.481 ms/6 mm
Out put power : 5 mW

Disconnect the AC cord before servicing the unit.

The AR-M208 is a modified version of the AR-235/275, and is provided with the RSPF and the GDI printer function. (For contents of the RSPF, refer to the AR-RP3 Service Manual.)

The different points of the AR-M208 from the AR-235/275 are shown in the table below.

AR-235/275			AR-M208	
Item	Page	Content	Content of change	Remarks
[1]	NOTE FOR SERVICING		No change	
[2]	SYSTEM CONFIGURATION			
	2 - 1	1. Structure Block diagram	Block diagram is changed.	Refer to page 2-1, 2 of the appendix.
	2 - 2	2. System outline (Options)	Main unit AR-235/275 is changed into AR-M208 Options AR-RP3 is provided as a standard equipment. AR-VR3, AR-SP4 is deleted. AR-D11 is changed into AR-D11N. AR-D12 is changed into AR-D12N. AR-FN5 is changed into AR-FN5N.	
[3]	SPECIFICATIONS			
	3 - 1	2. - B. - (2) Picture quality mode	Super Photo mode is deleted.	Refer to page 3-1 – 4 of the appendix.
		2. - B. - (3) Copy magnification ratio	SPF is deleted. Fixed magnification mode of RSPF is changed. 1200dpi mode is deleted.	
		2. - B. - (4) - b. Multi copy speed (sheets/ minute)	Change	
	3 - 2	2. - B. - (6) - a. Image process	Super Photo mode is deleted.	
		2. - B. - (6) - d. Resolution	Change (Pseudo resolution is deleted.)	
	3 - 3	3. - C. - (6) Scanning speed	1200dpi is deleted.	
		3. - E. Image process section	Imaging speed of 1200 dpi is deleted. Toner Life is changed.	
	3 - 4	6. “Sharp Printer Language with Compression (SPLC)” Printer mode	“Sharp Printer Language with Compression (SPLC)” Printer mode is added.	
[4]	CONSUMABLE PARTS		Maintance Kits changed.	
[5]	UNPACKING AND INSTALLATION		No change	
[6]	EXTERNAL VIEW AND INTERNAL STRUCTURE			
	6 - 1	1. External view	Platen cover (optional) is changed into RSPF Added (Dehumidification heater switch)	Refer to page 6-1 – 2 of the appendix.
	6 - 4	5. Sensor	Change (Abbreviation code is added/change.)	
[7]	ADJUSTMENTS, SETTING			
	7 - 2	2. - A. - (3) Developing bias voltage adjustment (SIM 8-1)	Default of SUPER PHOTO of "5: Super" in the table of Adjustment specification is changed to disabled.	Refer to SIM8-1, 2, and SIM8-3 on page 8-1, 2 of the appendix.
		2. - A. - (4) Grid bias voltage adjustment (High mode) (SIM 8-2)		
		2. - A. - (5) Grid bias voltage adjustment (Low mode) (SIM 8-3)		
		2. - B. - (2) Print start position adjustment	Sim50-5 Modulation means for compulsory specification of tray are added. (Remark)	Refer to SIM50-5 on page 8-10 of the appendix.
	7 - 3	2. - B. - (5) Paper off center adjustment	Sim50-10 Modulation means for compulsory specification of tray are added. (Remark)	Refer to SIM50-10 on page 8-11 of the appendix.
		2. - B. - (6) Left edge void area adjustment	Sim50-1 Modulation means for compulsory specification of tray are added. (Remark)	Refer to SIM50-1 on page 8-10 of the appendix.
	7 - 9		(16) SPF scan position auto adjustment is added.	Refer to page 7-1 of the appendix.
		2. - C. - (1) Copy mode (SIM46-2)	SUPER PHOTO in the table of Adjustment specification is deleted.	
[8]	SIMULATION			
	8 - 7	Sim3-3	4: FM-1200 is changed to disabled.	Refer to page 8-1 – 13 of the appendix.
	8 - 10	Sim8-1	Default of SUPER PHTO is changed to disabled. Note is added.	
	8 - 11	Sim8-2, Sim8-3		
		Sim8-10	Default of 7: DENS1(1200) to 11: DENS5(1200) is changed to disabled.	
	8 - 12	Sim8-11, Sim8-12		
	8 - 13	Sim9-1	2: DFM1200 and 4: DMR1200 are changed to disabled.	

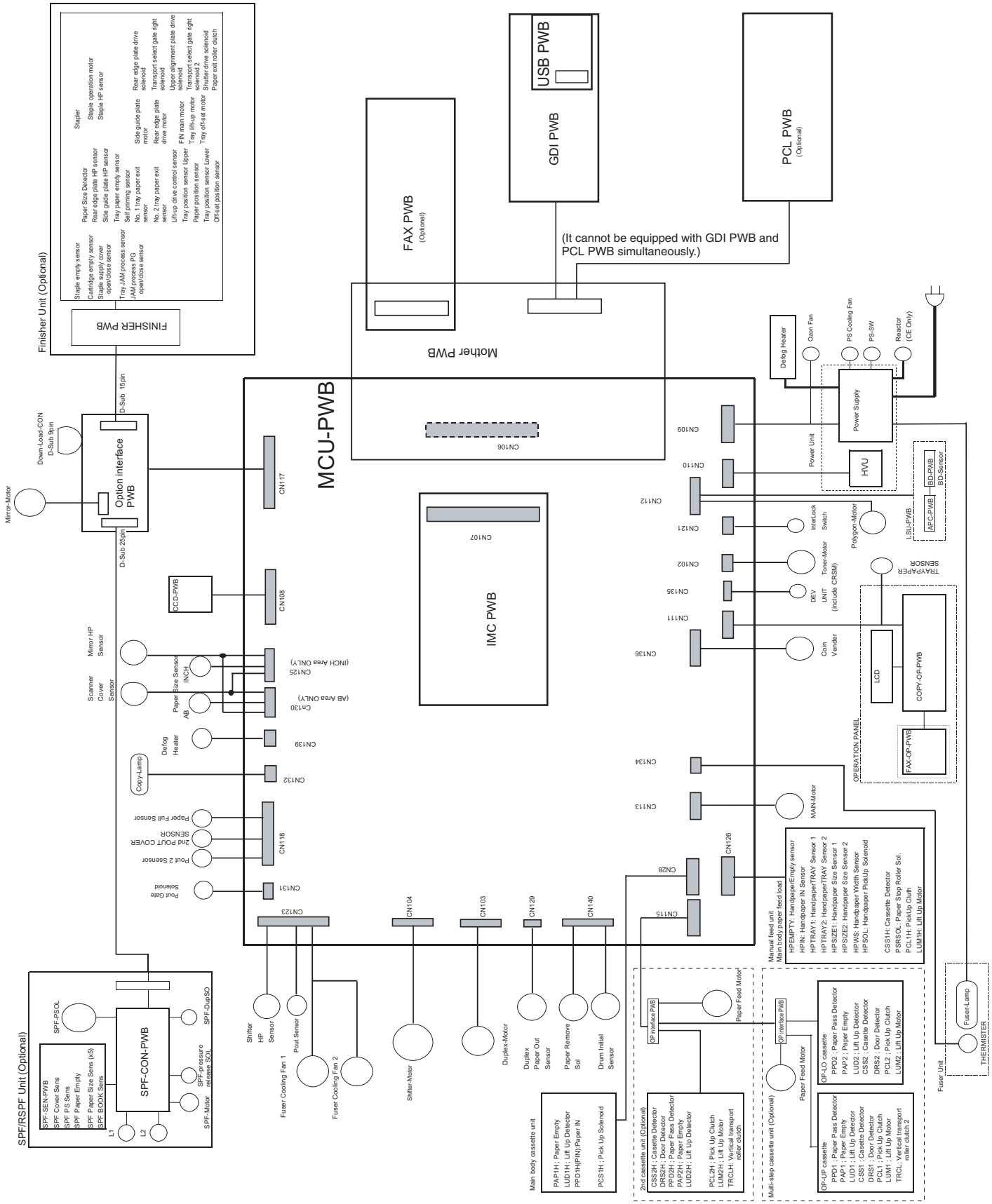
AR-235/275			AR-M208	
Item	Page	Content	Content of change	Remarks
[8]	8 - 14	Sim9-5	Default of 2: 1200dpi is changed to disabled.	Refer to page 8-1 – 13 of the appendix.
		Sim21-1	Change/Added (Display, Item, Content, Setting range, Default)	
	8 - 15	Sim22-3	Display of jam history is added.	
		Sim22-5	Display is changed. Note is added. Label code display content is added.	
	8 - 16	Sim22-10	Display content is changed. (SPEED, IMC MEM) Display item is changed. (PCL → PRINTER) Model code is changed. (SPF, RSPF, Finisher, 1 tray paper feed unit, 2 tray paper feed unit, PRINTER) Note is added.	
		Sim22-12	Display of jam history is added.	
	8 - 18	Sim24-15	Note is added.	
		Sim25-1	Display is changed. (1200dpi: Disabled) Note is added.	
	8 - 20	Sim26-6	Display item is changed. (12: TAIPEI → TAIWAN)	
	8 - 21	Sim26-12, Sim26-14	Note is added.	
		Sim26-22	Display, Setting range, and Default are changed. Item is changed. (5: ITALY → ITALIAN) (14: CZECHOSLOVAK → CZECH) Item is added. (20: TAIWANESE)	
	8 - 22	Sim26-41	Added	
	8 - 23	Sim26-57	Display, Display items, Setting range is changed.	
	8 - 26	Sim43-1	Default of 2: 1200dpi is changed to disabled.	
		Sim44-34	Display, Default is changed.	
	8 - 27	Sim46-2	Default of 5: SUPER PHOTO is changed to disabled. Note is added.	
		Sim46-7	Inhibited to use	
	8 - 29	Sim46-18	Default of 5: SUPER PHOTO is changed to disabled. Note is added.	
		Sim46-19	Default of 5: 1200dpi PHOTO is changed to disabled.	
		Sim46-20	Display, Default is changed.	
	8 - 31	Sim50-1	Modulation means for compulsory specification of tray are added. (Remark)	
		Sim50-5		
		Sim50-6	Display, Default is changed.	
	8 - 32	Sim50-10	Modulation means for compulsory specification of tray are added. (Remark)	
	8 - 33	Sim51-1	Default of 2: 1200dpi is changed to disabled.	
		Sim51-2	Modulation means for compulsory specification of tray are added. (Remark)	
		Sim51-9, Sim53-8	Added	
	8 - 34	Sim64-1	Change	
	8 - 39	Sim67-11, Sim67-14, Sim67-17, Sim67-18	Note is added.	
	8 - 40	Sim67-20		
[9]	TROUBLE CODE LIST		No change	
[10]	DISASSEMBLY, ASSEMBLY AND MAINTENANCE			
	10 - 1	1. Maintenance table	Gear is added to transfer unit.	Refer to page 10-1 of the appendix.
[11]	OTHERS			
	11 - 2	2. User programs	Account Limit, Initial Conditions, and Message Time are deleted.	

[2] SYSTEM CONFIGURATION

1. Structure

A. Hardware

Block diagram

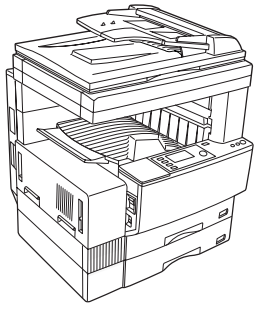


2. System outline (Options)

Option		NOTE
Item	Model	
500-sheet paper feed unit	AR-D11N	
2X500-sheet paper feed unit	AR-D12N	
Job separator tray kit	AR-TR3	
Finisher	AR-FN5N	
Facsimile expansion kit	AR-FX4	
Fax memory 2MB	AR-MM5	
4MB	AR-MM6	
8MB	AR-MM7	
Printer expansion kit	AR-P11	When the printer board is set up on the machine, the function of duplex can be automatically detected on printer mode.
Print server card	AR-NC5J	
Network scanner expansion kit	AR-NS2	
Bar code font kit	AR-PF1	
PS3 expansion kit	AR-PK1	

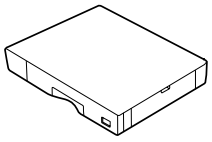
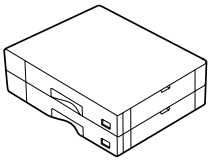
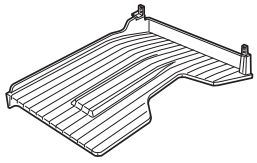
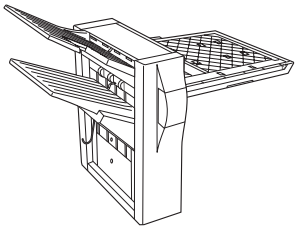
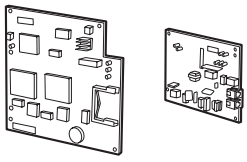
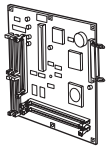
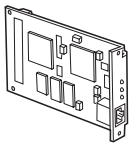
For details of the options, refer to the Service Manual of each option.

(1) Main unit



AR-M208

(2) Options

			
AR-D11N 500-sheet paper feed unit	AR-D12N 2 x 500-sheet paper feed unit	AR-TR3 Job separator tray kit	AR-FN5N Finisher
			AR-MM5/MM6/MM7 2/4/8MB Fax memory
			AR-NS2 Network scanner expansion kit
			AR-PF1 Bar code font kit
AR-FX4 Facsimile expansion kit	AR-P11 Printer expansion kit	AR-NC5J Print server card	AR-PK1 PS3 expansion kit

Do not use the PRINTER UTILITY CO-ROM that accompanied the AR-P11 and AR-PK1 to install the software.

[3] SPECIFICATIONS

This model is designed as an SPLC printer, and can be extended for use as a PCL6/PS3/NC/scanner by options. For details, refer to the Service Manual of the AR-P11/AR-PK1/AR-NC5J/AR-NS2.

2. Operation specifications

B. Copy mode

(2) Picture quality mode

Picture quality mode	Density adjustment step	Toner save mode
Auto mode	1 step	Selectable
Text mode	5 steps	Selectable
Text/Photo mode	5 steps	Selectable
Photo mode	5 steps	—

(3) Copy magnification ratio

Copy magnification ratio	Magnification range/fixed magnification
Zoom width	*25 to 400% (50 to 200% for RSPF)*
Fixed magnification mode	5R+5E AB Series: 25, 50, 70, 81, 86, 100, 115, 122, 141, 200, 400% Inch Series: 25, 50, 64, 77, 95, 100, 121, 129, 141, 200, 400% *(However, 25%/400% is inhibited when RSPF is used.)*
Independent magnification width	*25 to 400% for horizontal/vertical (50 to 200% for RSPF)*

Magnification precision	Normal copy: 100%±1.0% Enlargement copy: Set magnification ±1.0% Reduction copy: Set magnification ±1.0%

(4) Job speed

b. Multi copy speed (sheets/minute)

Copy magnification

Document Size	*Normal copy (100%) / Reduction copy (50% to 99%) / Enlargement copy (101% to 200%)*
A3	*12.5*
B4	*14*
A4 (Horizontal feed)	*20*
A4 (Vertical feed)	*16*
B5 (Horizontal feed)	*20*
B5 (Vertical feed)	*18*
11" × 17"	*12.5*
8-1/2" × 14"	*14*
8-1/2" × 13"	*15*
8-1/2" × 11" (Horizontal feed)	*20*
8-1/2" × 11" (Vertical feed)	*16*
A5/INV	*20*

* The slowest speed is listed in enlargement/reduction copy.
* Single-side copy

(6) Picture quality

a. Image process

Picture quality mode	Image process (Software)
Auto mode	• 2 gradations • Area separation • Error diffusion
Text mode	
Text/Photo mode	
Photo mode	

d. Resolution

	Main scanning direction	Sub scanning direction
Scan	400 dpi	600 dpi
Output	600 dpi	600 dpi

3. Engine specifications

C. Optical (Image scanning) section

(6) Scanning speed

122mm/sec (600 dpi: magnification ratio 100%)

E. Image process section

Imaging speed		*600 dpi : 122 mm/sec.*
Photo conductor	Type	OPC drum (dia. 30mm)
	LIFE	50,000 sheets
Toner	Type	Developer (Black)
	LIFE	*30,000 sheets (Toner, life: 25k, Developer life: 50k)*
Charge	System	(–) DC scorotron (saw tooth)
	Voltage	560μA constant electric current
Transfer	System	Transfer roller
	Voltage	18μA (electric current)
Exposure		Xenon lamp
Developing		Dry, 2-component magnetic brush development
Separation		(–) DC corotron
Discharge		—
Cleaning		Blade

6. "Sharp Printer Language with Compression (SPLC)" Printer mode

A. Basic specification

Item	Detail
Print Speed	15ppm: 600dpi (including transfer from PC) 20ppm: ROPM
Resolution	600dpi
Smoothing	1200dpi x 600dpi
Toner Save Mode	Standard
Input tray	4 Multi size tray 1 Multi Bypass tray (Depending on conditions of the machine and option installation.)
Finisher	Option
Printer driver	Standard
Manual (Online manual)	Standard
Platform	IBM PC/AT (Include compatible machine)
Support OS (Printer Driver)	Windows 95/98/Me Windows NT 4.0 Workstation (SP5 or later) Windows 2000 Professional Windows XP Home/Professional Edition

C. Printer driver specification

(1) System

Machine	OS	GDI
IBM PC/AT (Include compatible machine)	Windows 95/98/Me	Yes
	Windows NT 4.0 Workstation (SP5 or later)	
	Windows 2000 Professional	
	Windows XP Home/Professional Edition	

(2) Printing function specification

Function		GDIDriver
Main	Copies	1-999
	Collate	Collate Uncollate
	N-up printing	2/4
	N-up Order	Z
	N-up Border	Yes/No
	Finishing	Staple Yes/No
	User Setting	Yes
Paper	Paper Size	A3 / B4 / A4 / B5 / A5 B6 / A6 / Ledger(11x17) / Legal (8.5 x 14) / Foolscap (8.5 x 13) / Letter (8.5 x 11) / Invoice (5.5 x 8.5) / Folio / Executive / COM-10 / DL/C5 / 8K / 16K
	Custom Paper Size	1 size
	Paper Source	• Auto Select • Bypass • Bypass Manual • Tray 1/2/3/4
	Fit to Page	Yes / No
	Image Orientation	Portrait / Landscape
	Transparency print	Yes/No
	Output Tray Selection	• Center Tray • Job Separator Tray • Finisher Offset tray
Advanced	Print Quality	Normal Draft Photo
	Smoothing	Yes / No
	Toner save	Yes / No
	Photo Enhancement	Yes/No
	2 Gradation print	Yes / No
	Image Adjustment	Brightness : 0 to 100 Contrast : 0 to 100
Water-mark	Watermark	(None) / TOP SECRET / CONFIDENTIAL / DRAFT / ORIGINAL / COPY
	User setting	Add / Update / Delete
	Position	Center X: ±50 Y : ±50
	Size	6 to 300
	Angle	±90
	Gray Scale	0 to 255
	Edit Font	Yes
	On first page only	Yes / No
Configuration *(Manual)	ROPM	Yes / No
	Input Trays	Two / Three / Four trays
	Output Tray Options	None / Job Separator / Staple Finisher
	Set Tray Status	Yes
	About	Yes

(3) System requrement

Computer	IBM PC/AT (Include compatible machine)
Operating system	Windows 95/98/Me Windows NT 4.0 Workstation (SP5 or later) Windows 2000 Professional Windows XP Home/Professional Edition

Note: Hardware requirements such as CPU and RAM for your operating system must be satisfied.

(4) Print quality

Resolution	600dpi	Print quality is selected from Normal*/Draft/Photo.
Smoothing	On*	Smoothing function is ON.
	Off	Smoothing function is OFF.
Toner Save Mode	On	Toner save function is ON.
	Off*	Toner save function is OFF.
Photo Enhancement	On	Photo enhancement function is ON.
	Off*	Photo enhancement function is OFF.
2 Gradation print	On	2-Gradation print function is ON.
	Off*	2-Gradation print function is OFF.

* Default

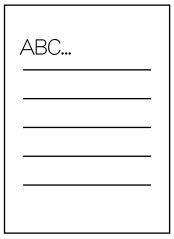
(5) Paper handling specifications

a. Paper feed direction

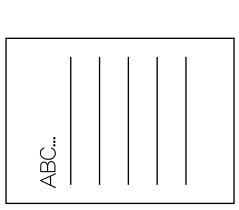
Limitations on tray/functions for support paper

Paper name	Paper size	Paper feed tray					Paper exit tray			Function	
		Manual tray	Tray 1	Tray 2	Tray 3	Tray 4	Center tray	Upper tray	Offset tray	Staple	Fit page
A3	297 x 420 mm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A4	210 x 297 mm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A5	148 x 210 mm	Yes	Yes	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
A6	105 x 148 mm	Yes	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	Yes
B4	257 x 364 mm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B5	182 x 257 mm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B6	128 x 182 mm	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
Ledger	11 x 17 inch	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Letter	8.5 x 11 inch	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Legal	8.5 x 14 inch	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Executive	7.25 x 10.5 inch	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
Folio	8.3 x 13 inch	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
Invoice	5.5 x 8.5 inch	Yes	Yes	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
Foolscap	8.5 x 13 inch	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8K	270 x 390 mm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes
16K	195 x 270 mm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes
DL	110 x 220 mm	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
C5	162 x 229 mm	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
Com10	4.125 x 9.5 inch	Yes	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes
Custom	W: 100 to 297 mm L: 148 to 431.8 mm	Yes	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A

Setting direction toward paper feed port = Long side

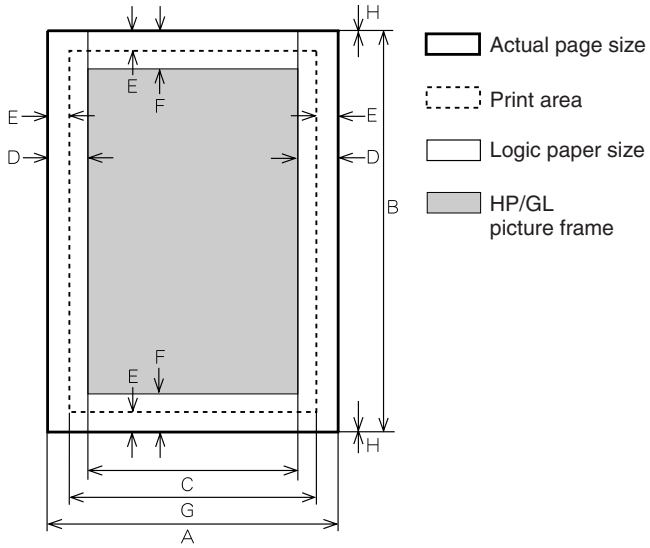


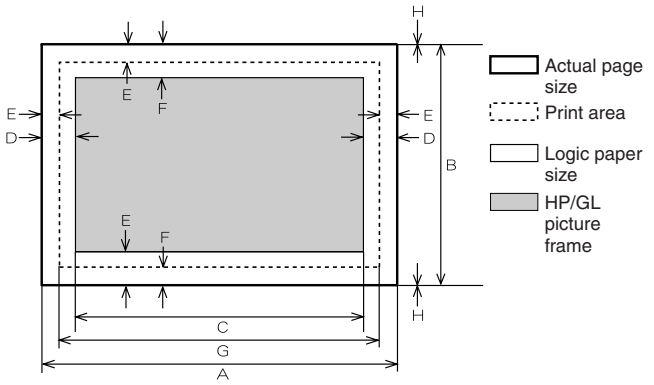
Setting direction toward paper feed port = Short side



Paper Size	A	B	C	D	E	F	G	H
A3	7014	9920	6730	142	100	300	6814	0
B4	6070	8597	5786	142	100	300	5870	0
A4	4960	7014	4676	142	100	300	4760	0
B5	4298	6070	5770	142	100	300	4098	0
A5	3508	4960	3224	142	100	300	3308	0
Ledger	6600	10200	6300	150	100	300	6400	0
Legal	5100	8400	4800	150	100	300	4900	0
Letter	5100	6600	4800	150	100	300	4900	0
Invoice	3300	5100	3000	150	100	300	3100	0
Foolscap	5100	7800	4800	150	100	300	4900	0
Folio	4980	7800	4680	150	100	300	4780	0
Executive	4350	6300	4050	150	100	300	4150	0
COM-10	2474	5700	2174	150	100	300	2274	0
C5	3826	5408	3542	142	100	300	3626	0
DL	2598	5196	2314	142	100	300	2398	0

(6) Print enable area





Paper Size	A	B	C	D	E	F	G	H
A3	9920	7014	9684	118	100	300	9720	0
B4	8597	6070	8361	118	100	300	8397	0
A4	7014	4960	6778	118	100	300	6814	0
B5	6070	4298	5830	118	100	300	5870	0
A5	4960	3508	4720	118	100	300	4760	0
Ledger	8400	5100	8160	120	100	300	8200	0
Legal	8400	5100	8160	120	100	300	8200	0
Letter	6600	5100	6360	120	100	300	6400	0
Invoice	5100	3300	2860	120	100	300	4900	0
Foolscap	7800	5100	7560	120	100	300	7600	0
Folio	7800	4980	7560	120	100	300	7600	0
Executive	6300	4350	6060	120	100	300	6100	0
COM-10	5700	2474	3460	120	100	300	5500	0
C5	5408	3826	5172	118	100	300	5208	0
DL	5196	2598	4960	118	100	300	4996	0

* Top margin

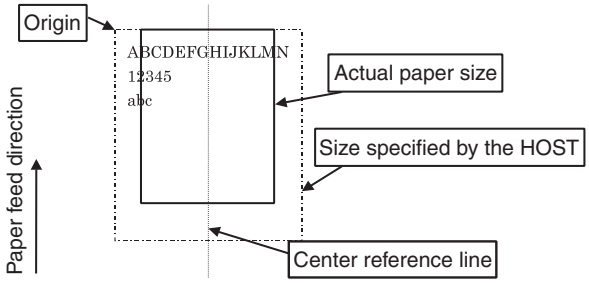
The set value is received from the digital copier, and data are made according to the set value.

* Left margin

Since the paper size sensor is not set, the digital copier cannot recognize the size and direction of paper which is actually inserted.
Therefore, the left margin is set according to the paper size specified in the print data sent from the computer, and print process is performed. If the computer does not specify the paper size, or in the case of the custom size, the left margin is set according to the default paper size.

(7) Print reference

This machine employs the center reference system.
Since the digital copier is not provided with the tray size detection feature, formatting and center distribution are performed not by the actual paper size but by the paper size specified by the computer.



D. Interface

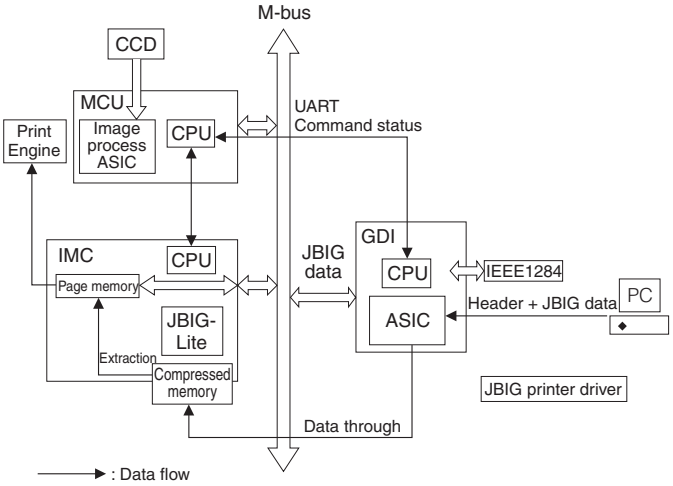
Interface	IEEE 1284 (Parallel interface)
	USB 1.1

E. System outline

The GDI-PWB is provided with IEEE1284 I/F on the host side, and the 16-bit bi-directional data bus I/F and UART on the machine side. Transfer of image data with the IMC-PWB is performed with this 16-bit bi-directional data bus. Command status information with the engine is processed with UART.

This unit is installed to the position of PCL-PWB on the conventional AR-235/275.

JBIG compression data sent from the host are transferred to the IMC PWB, where the data are extracted to be VIDEO data, and sent through the MCU PWB to the LSU.



[4] CONSUMABLE PARTS

1. List

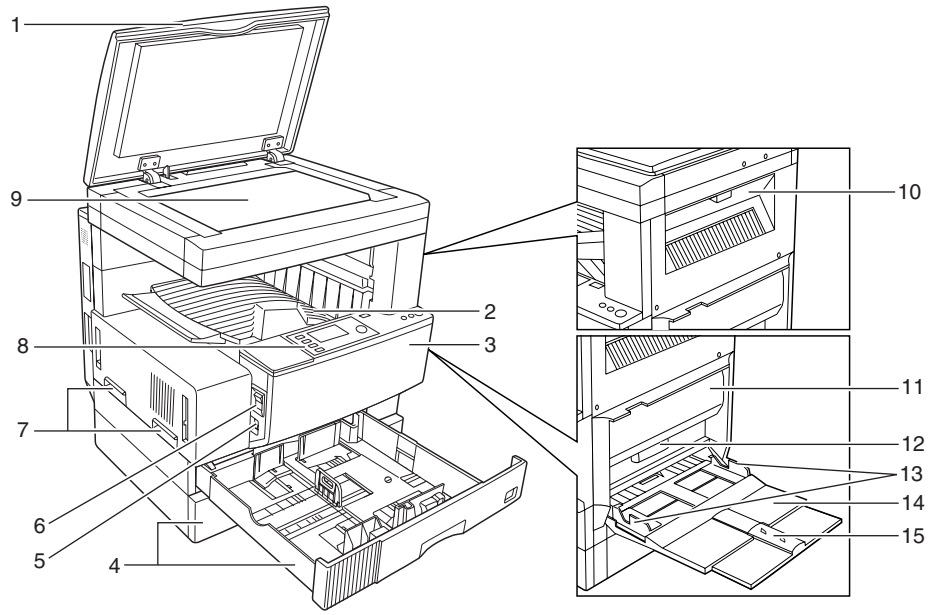
A. SEC/LAG

No.	Item	Content	Life	Model name	Remarks
1	Toner CA (black) w/IC	Toner ×10 Vinyl bag ×10	25K (×10)	AR-270MT	Life setting by A4 (8.5"×11") 6% document MT=NT*10
2	Developer	Developer ×10 (Developer; Net weight 500g)	50K (×10)	AR-270MD	MD=ND*10
3	Drum kit	Drum ×1	50K	AR-270DR	
4	Upper heat roller kit	Upper Heat Roller ×1 Fusing gear ×1 Upper heat roller bearing ×2 Fusing separation pawl (upper) ×4	150K	AR-271UH	
5	Lower heat roller kit	Lower Heat Roller ×1 Fusing separation pawl (lower) ×4 Fusing busing (lower) ×2	300K	AR-271LH	
6	100K maintenance kit	Drum Separation Unit ×2 Transfer roller unit ×1	100K	AR-270KA1	
7	MC unit	MC unit ×10	50K (×10)	AR-270MC	
8	Cleaner Blade	Cleaner Blade ×10	50K (×10)	AR-270CB	
9	Drum frame unit	Drum frame unit ×1	200K	AR-271DU	* The life of the toner reception seat welded to the drum frame is 200K, and it can be used up to 4 times. (Supplied as a drum frame unit.) * Drum frame unit contains all the drum unit parts excluding Drum and Drum fixing plate.
10	Staple Cartridge	Staple Cartridge ×3	3000 staples ×3	AR-SC1	
11	Transfer roller unit	Transfer roller unit ×1	100K	AR-271TX	
12	Paper feed roller kit	Paper feed roller kit ×1	100K	AR-271IR	Paper feed roller, pickup roller, separation sheet
13	Fusing unit	Fusing unit ×1	150K	AR-271FU	

* The other maintenance parts than the above are supplied as service parts.

[6] EXTERNAL VIEW AND INTERNAL STRUCTURE

1. External view

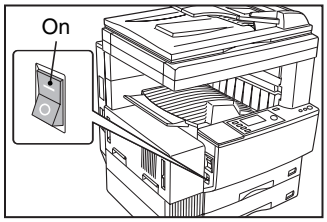


No.	Name	Function/Operation
1	*RSPF*	*Duplex documents are automatically reversed to perform continuous copying of the front and the back.*
2	Paper output tray	Finished copies are deposited in the paper output tray.
3	Front cover	Open to remove misfeeds and for copier servicing.
4	Paper trays	Each tray holds 500 sheets of copy paper.
5	Dehumidification heater switch *	Press to turn on the heater to prevent dew condensation inside the copier and moisture absorption of paper.
6	Power switch	Press to turn copier power on and off.
7	Handles	Use to move the copier.
8	Operation panel	All copier controls are located here for easy operation.
9	Original table	Place the document to be copied here.
10	Upper exit area cover	Open to remove misfeeds when an optional job separator tray kit or finisher is installed.
11	Side cover	Open to remove misfeeds.
12	Side cover handle	Lift and pull to open the side cover.
13	Bypass tray guides	Adjust to the width of the copy paper.
14	Bypass tray	Special papers (including transparency film) and copy paper can be fed from the bypass tray.
15	Bypass tray extension	Pull out when feeding large paper such as 8-1/2" x 14" and 11" x 17".

* *Dehumidification heater switch (DH POWER)*

This copier is equipped with a dehumidification heater, which prevents dew condensation inside the copier and moisture absorption of paper in the paper trays. If dew condensation occurs and causes moisture absorption of paper, image quality may be deteriorated and paper misfeeds may occur frequently. It is recommended that the dehumidification heater switch be left in the "ON" position in the following cases even after the power switch is turned off.

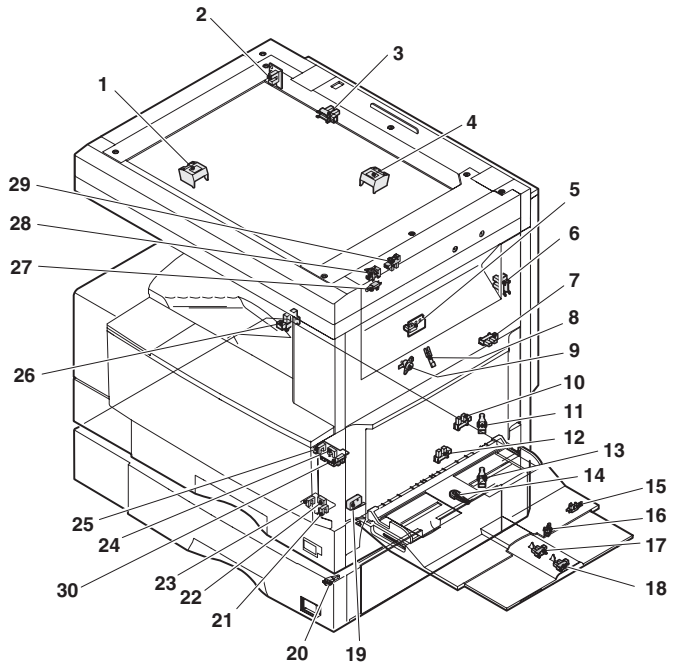
- *In a low temperature season such as winter (When a sudden temperature change occurs, for example, immediately after room heating is turned on, dew condensation may occur.)*
- *In a high temperature and high humidity season such as summer or rainy season (Depends on the use conditions. The reference is 60% (humidity) or more.)*
- *In regions at a high temperature and a high humidity*



NOTES:

- *When using the dehumidification heater, do not remove the power cord from the outlet. Doing so will stop the heater.*
- *If an optional 500-sheet paper feed unit or 2x500-sheet paper feed unit is installed, the heater in the unit will also be turned on when the dehumidification heater switch of the copier is turned on.*

5. Sensor



No.	Name	Code	Function and operation
1	Original size sensor	DSIN0	Document size detection
2	Mirror home position sensor	MHPS	Mirror (scanner) home position detection
3	Document cover sensor	OCCOVER	Document cover open/close detection
4	Document size sensor	DSIN3	Document size detection
5	1st paper exit sensor	POUT	1st paper exit detection
6	Shifter home position sensor	SFTHP	Shifter home position sensor detection
7	Paper exit sensor (DUP side)	PDPX	Paper exit detection
8	Thermistor	RTHIN	Fusing temperature detection
9	Thermostat		Abnormal high temperature detection in the fusing section
10	Manual feed paper entry sensor	HPIN	Sensor of paper entry from the manual paper feed tray, the 2nd/multi-stage desk, or the DUP
11	1st cassette (paper tray) detection	*CSS1H*	1st cassette (paper tray) empty detection
12	Manual feed paper empty sensor	HPEMPTY	Manual feed paper empty detection
13	2nd cassette (paper tray) detection	*CSS1A*	2nd cassette (paper tray) empty detection
14	Manual feed width detection volume	HPWS	Manual feed paper width detection
15	Manual paper feed tray empty sensor 2	HPTRAY2	Manual feed tray position detection
16	Manual paper feed tray empty sensor 1	HPTRAY1	Manual feed tray position detection
17	Manual feed length detection sensor 2	HPSIZE2	Manual feed paper length detection
18	Manual feed length detection sensor 1	HPSIZE1	Manual feed paper length detection
19	Door switch	SW24V	Front door and side door open/close detection
20	2nd right door switch	*DRS1A*	Side door open/close detection
21	2nd cassette paper pass sensor	*PPD1A*	2nd cassette paper pass
22	2nd cassette paper upper limit detection sensor	*LUD1A*	2nd cassette paper upper limit detection
23	2nd cassette paper empty sensor	*PAP1A*	2nd cassette paper empty detection
24	1st cassette paper upper limit detection sensor	LUD1H	1st cassette paper upper limit detection
25	1st cassette paper empty sensor	PAP1H	1st cassette paper empty detection
26	Center tray paper YES/NO sensor	TRAYPAPER	Center tray paper YES/NO detection
27	Right cabinet door switch	POUTCOV	Right cabinet door open/close detection
28	2nd paper exit sensor	POUT2	2nd paper exit detection
29	2nd paper exit full detection sensor	PFULL2	2nd paper exit section full detection
30	1st cassette paper pass sensor	*PIN*	1st cassette paper pass

[7] ADJUSTMENTS, SETTING

2. Copier adjustment

B. Mechanism section

(16) SPF scan position auto adjustment

[Function]

Used to adjust the SPF scan position automatically.

[Operation]

1) With the SPF or the OC cover open, place a chart of black background on the OC glass. (In the SPF standard model, the SPF glass surface is included.)

* Use a black chart (UKOG-0011QSZZ) or prepare a chart as shown below.
  Chart size: 310 x 470, prepared with cutting sheet No. 791 (Black) or an equivalent one.

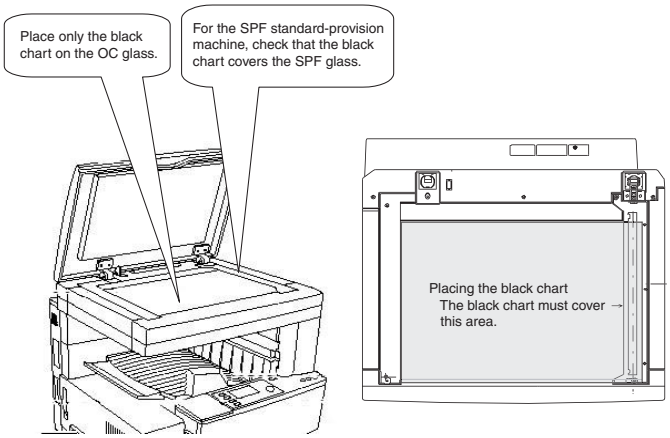
  Reason: To prevent erroneous detection by disturbing light of a fluorescent lamp, etc.

2) Enter SIM53-08, and press [START] button.
   Outline of SIM: The optical unit is shifted to recognize the boundary between the OC glass and the SPF glass cover.
   With the same position as the reference, the SPF scan position is automatically adjusted.

<Note>

- After completion of the SPF scan position auto adjustment, the SPF lead edge adjustment must be executed. (Both surfaces)
- There must be no other sheet than the black chart on the glass surface.
- Especially when in SPF scan, the center area is scanned in the main scan direction. Be careful to prevent external light from entering the scan area.

3) Check that the lead edge is not shifted. (Both surfaces)
   (If the original lead edge adjustment has been made properly, even when the scan position is shifted, it is followed automatically.)


Place only the black chart on the OC glass.
For the SPF standard-provision machine, check that the black chart covers the SPF glass.
Placing the black chart
The black chart must cover this area.

4) Change the adjustment value of the SPF scan end position.
   (Change the adjustment value of SIM50-6-3 from 50 to 36.)
   Change the number of steps for Pin off – scan end position from 1,014 to 986.
   Be sure to execute this adjustment because an image may be cut off during FAX transmission though copying is normally performed.
5) Change the initial value of the SPF exposure adjustment (SIM46-20) from 50 to 53.
   (For the CCD exposure adjustment with SPF, use the value of the OC adjustment value +3.)
   There are suffixes of –1 SPF and –2 SPF. Change each of them.

[8] SIMULATION

2. Simulation code list

Code		Function
Main	Sub	
3	3	Used to check the operation of the load in the finisher and the control circuit.
8	1	Used to check and adjust the operation of the developing bias voltage in each copy mode and the control circuit.
	2	Used to check and adjust the operation of the main charger grid voltage (high mode) in each copy mode and the control circuit.
	3	Used to check and adjust the operation of the main charger grid voltage (low mode) in each copy mode and the control circuit.
	10	Used to check and adjust the operation of the developing bias voltage in each printer mode and the control circuit.
	11	Used to check and adjust the operation of the main charger grid voltage (high mode) in each printer mode and the control circuit.
	12	Used to check and adjust the operation of the main charger grid voltage (low mode) in each printer mode and the control circuit.
9	1	Used to check and adjust the operation of the load (motor) in the duplex section and the control circuit.
	5	Used to adjust the switch back time of the duplex motor.
21	1	Used to set the maintenance cycle.
22	3	Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)
	5	Used to check the ROM version of each unit (section).
	10	Used to check the system configuration.
	12	Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)
24	15	Used to clear the scanner mode counter.
25	1	Used to check the operation of the main drive (excluding the scanner section) and to check the operation of the toner concentration sensor. (The toner concentration sensor output can be monitored.)
26	6	Used to set the specifications depending on the destination.
	12	Used to input the Software Key for E-MAIL RIC.
	14	Used to input the Software Key for the PS extension kit.
	22	Used to set the specification (language display) for the destination.
	41	*Used to set whether the automatic magnification ratio select (AMS) is always ON or not when setting the pamphlet (center binding) function.*
	57	Used to set the model code.
43	1	Used to set the fusing temperature in each operation mode.
44	34	Used to adjust the transfer current value.
46	2	Used to adjust the copy exposure level.
	18	Used to adjust the copy contrast. (Inclination)
	19	Used to change the image quality in the exposure mode.
	20	Used to correct SPF exposure.
50	1	Used to adjust the copy lead edge position.
	5	Used to adjust the print image position (top margin) on the print paper in the print mode.
	6	Used to adjust the print image position (top margin) on print paper in the copy mode. (SPF/ RSPF)
	10	Used to adjust the print image center position. (Adjustment can be made for each paper feed section.)
51	1	Used to adjust the OPC drum separation pawl ON time.
	2	Used to adjust the contact pressure of paper onto the resist roller in each section (copier paper feed section, duplex paper feed section, SPF paper feed section). (When the print image position varies greatly for the paper or when a lot of paper jam troubles occur, the adjustment is required.)
	9	*Used to adjust ON/OFF timing of the separation voltage.*
53	8	*Used to adjust the mirror unit SPF scan position automatically.* *For the SPF scan position auto adjustment, the mirror unit is shifted to 11mm before the SPF glass cover edge and is moved by self-boost, and images are scanned in each step, and the position from the glass cover edge is automatically detected.* *[Adjustment value]* *Default: 50 Setting range: 1 to 99* *Adjustment unit 1 = about 0.127mm*
64	1	Self print Key input = 1 Self print is performed in the 2-by-4 mode (2-line print and 4-line non-print). Key input = 2 Grid print is performed. (1cm, 1-dot width WLT/A3 print (A3 main scan, WLT sub scan))
67	11	Used to set the Select-IN signal.
	14	Used to check write/comparison of flash programs.
	17	Used to clear NVRAM.
	18	Used to clear the data area for FLASH ROM Network Scanner Application.
	20	Used to check the network connection when a scanner option is installed.

3. Details

3

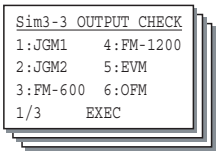
3-3

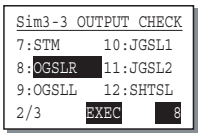
Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the load in the finisher and the control circuit.
Section	Sorter/Finisher
Item	Operation

Operation/procedure

The names of the loads which can be operated are displayed. Select the load to be checked with the key.

(Initial screen) (Executing screen)





During execution, [EXEC] is highlighted. Under this state, press the [BACK] key to interrupt the operation.

1:JGM1	Side guide plate drive motor	
2:JGM2	Rear edge plate drive motor	
3:FM-600	Finisher main motor (600dpi)	
4:FM-1200	Finisher main motot (1200dpi)	Disabled
5:EVM	Tray lift-up motor	
6:OFM	Tray offset motor	
7:STM	Staple operation motor	
8:OGSLR	Transport selection gate solenoid (R)	
9:OGSLL	Transport selection gate solenoid (L)	
10:JGSL1	Rear edge plate drive solenoid	
11:JGSL2	Upper alignment plate drive solenoid	
12:SHTSL	Shutter drive solenoid	
13:T2SCL	Paper exit roller clutch	
14:STGSL	Paper holding solenoid	

The finisher main motor operates for 10sec, the staple motor 5 times, the tray lift-up motor one reciprocating operation, other motors max. 20 reciprocating operations from the home position, the solenoid repeats 500msec ON and 500msec OFF 20 times.

The staple operation motor operates only when there is no cartridge installed.

Note:Executable only when the finisher is installed.

8

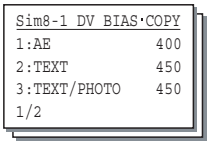
8-1

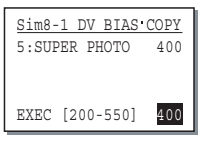
Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the developing bias voltage in each copy mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
	Developer/Toner hopper

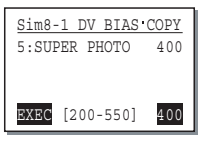
Operation/procedure

After selecting the mode, enter the adjustment value and press the [OK] key, and output will be made for 30sec.

(Initial screen) (Input/Selection screen) (Executing screen)







Display items	Content	Installation range	Default
1:AE	AE (*)	200-550	400 (–400V)
2:TEXT	Character		450 (–450V)
3:TEXT/PHOTO	Character/Photo		450 (–450V)
4:PHOTO	Photo		450 (–450V)
5:SUPER PHOTO *	Super photo		*Disabled*
6:TONER SAVE	Toner save		376 (–376V)

(*) Linked with the destinations of SIM 26-6.
Linked with the auto exposure mode of SIM 46-19-1.

* *SUPER PHOTO (5:) cannot be executed.*
When [OK] or [START] key is pressed, a caution buzzer sounds. (Only the adjustment value can be entered.)

The minimum increment is 2V.

The result of (Set value – 199) / 2 is stored in the EEPROM.

When reading a value from the EEPROM, the value of (EEP value *2) + 200 is used as the set value.

Therefore, the set value entered must be an even number. If an odd number is entered the entered odd number + 1 is displayed after pressing [OK] key.

8-2

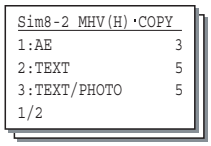
Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage (high mode) in each copy mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
	Photo conductor

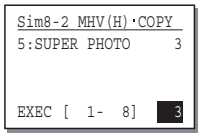
Operation/procedure

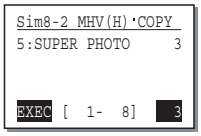
After selecting the mode, enter the adjustment value and press the [OK] key, and output will be made for 30sec.

The input value is in the increment of –25V.

(Initial screen) (Input/Selection screen) (Executing screen)







Display items	Content	Setting range	Default
1:AE	AE (*)	1-8	3 (–530V)
2:TEXT	Character		5 (–580V)
3:TEXT/PHOTO	Character/Photo		5 (–580V)
4:PHOTO	Photo		5 (–580V)
5:SUPER PHOTO *	Super photo		*Disabled*
6:TONER SAVE	Toner save		2 (–505V)

(*) Linked with the destinations of SIM 26-6.
Linked with the auto exposure mode of SIM 46-19-1.

* *SUPER PHOTO (5:) cannot be executed.*
When [OK] or [START] key is pressed, a caution buzzer sounds. (Only the adjustment value can be entered.)

NO.	Set value	Grid High	Grid Low
1	480	–480V	–350V
2	505	–505V	–375V
3	530	–530V	–400V
4	555	–555V	–425V
5	580	–580V	–450V
6	605	–605V	–475V
7	630	–630V	–500V
8	655	–655V	–525V

*1. The negative value of the set value corresponds to the grid high output voltage.

*2. The set values can be selected from the above 8 patterns only.

*3. The selected pattern determines the grid high voltage and the grid low voltage.
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

8-3

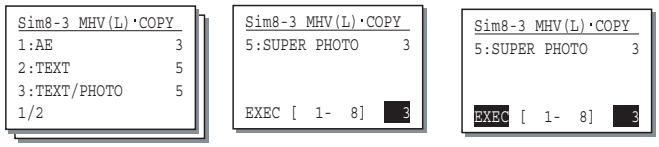
Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage (low mode) in each copy mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
	Photo conductor

Operation/procedure

After selecting the mode, enter the adjustment value and press the [OK] key, and output will be made for 30sec.

The input value is in the increment of –25V.

(Initial screen) (Input/Selection screen) (Executing screen)



Display items	Content	Setting range	Default
1:AE	AE (∗)	1-8	3 (–400V)
2:TEXT	Character		5 (–450V)
3:TEXT/PHOTO	Character/Photo		5 (–450V)
4:PHOTO	Photo		5 (–450V)
5:SUPER PHOTO *	Super photo		*Disabled*
6:TONER SAVE	Toner save		2 (–375V)

(∗) Linked with the destinations of SIM 26-6.
Linked with the auto exposure mode of SIM 46-19-1.

* *SUPER PHOTO (5:) cannot be executed.*
When [OK] or [START] key is pressed, a caution buzzer sounds. (Only the adjustment value can be entered.)

NO.	Set value	Grid High	Grid Low
1	480	–480V	–350V
2	505	–505V	–375V
3	530	–530V	–400V
4	555	–555V	–425V
5	580	–580V	–450V
6	605	–605V	–475V
7	630	–630V	–500V
8	655	–655V	–525V

*1. The negative value of the set value corresponds to the grid high output voltage.

*2. The set values can be selected from the above 8 patterns only.

*3. The selected pattern determines the grid high voltage and the grid low voltage.
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

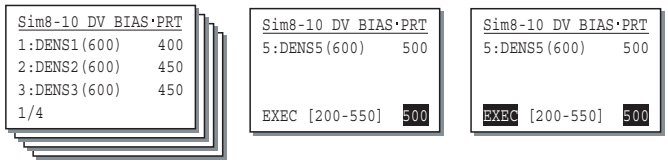
8-10

Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the developing bias voltage in each printer mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
	Developer/Toner hopper

Operation/procedure

After selecting the mode, enter the adjustment value and press the [OK] key, and output will be made for 30sec.

(Initial screen) (Input/Selection screen) (Executing screen)



Display items	Content	Installation range	Default
1:DENS1(600)	Density 1 (600dpi)	200-550	400 (–400V)
2:DENS2(600)	Density 2 (600dpi)		450 (–450V)
3:DENS3(600)	Density 3 (600dpi)		450 (–450V)
4:DENS4(600)	Density 4 (600dpi)		450 (–450V)
5:DENS5(600)	Density 5 (600dpi)		500 (–500V)
6:TS(600)	Toner save (600dpi)		350 (–350V)
7:DENS1(1200)	Density 1 (1200dpi)		*Disabled*
8:DENS2(1200)	Density 2 (1200dpi)		*Disabled*
9:DENS3(1200)	Density 3 (1200dpi)		*Disabled*
10:DENS4(1200)	Density 4 (1200dpi)		*Disabled*
11:DENS5(1200)	Density 5 (1200dpi)		*Disabled*

The minimum increment is 2V.
The result of (Set value – 199) / 2 is stored in the EEPROM.
When reading a value from the EEPROM, the value of (EEP value *2) + 200 is used as the set value.
Therefore, the set value entered must be an even number. If an odd number is entered the entered odd number + 1 is displayed after pressing [OK] key.

8-11

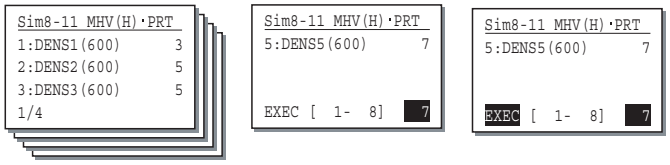
Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage (high mode) in each printer mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
	Photo conductor

Operation/procedure

After selecting the mode, enter the adjustment value and press the [OK] key, and output will be made for 30sec.

The input value is in the increment of –25V.

(Initial screen) (Input/Selection screen) (Executing screen)



Display items	Content	Installation range	Default
1:DENS1(600)	Density 1 (600dpi)	1-8	5 (–580V)
2:DENS2(600)	Density 2 (600dpi)		5 (–580V)
3:DENS3(600)	Density 3 (600dpi)		5 (–580V)
4:DENS4(600)	Density 4 (600dpi)		5 (–580V)
5:DENS5(600)	Density 5 (600dpi)		7 (–630V)
6:TS(600)	Toner save (600dpi)		3 (–530V)
7:DENS1(1200)	Density 1 (1200dpi)		*Disabled*
8:DENS2(1200)	Density 2 (1200dpi)		*Disabled*
9:DENS3(1200)	Density 3 (1200dpi)		*Disabled*
10:DENS4(1200)	Density 4 (1200dpi)		*Disabled*
11:DENS5(1200)	Density 5 (1200dpi)		*Disabled*

NO.	Set value	Grid High	Grid Low
1	480	–480V	–350V
2	505	–505V	–375V
3	530	–530V	–400V
4	555	–555V	–425V
5	580	–580V	–450V
6	605	–605V	–475V
7	630	–630V	–500V
8	655	–655V	–525V

*1. The negative value of the set value corresponds to the grid high output voltage.

*2. The set values can be selected from the above 8 patterns only.

*3. The selected pattern determines the grid high voltage and the grid low voltage.
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

8-12

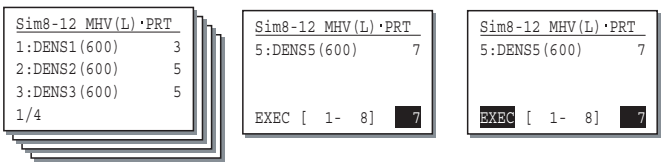
Purpose	Adjustment/Operation test/check
Function (Purpose)	Used to check and adjust the operation of the main charger grid voltage (low mode) in each printer mode and the control circuit.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
	Photo conductor

Operation/procedure

After selecting the mode, enter the adjustment value and press the [OK] key, and output will be made for 30sec.

The input value is in the increment of –25V.

(Initial screen) (Input/Selectionscreen) (Executing screen)



Display items	Content	Installation range	Default
1:DENS1(600)	Density 1 (600dpi)	1-8	5 (–450V)
2:DENS2(600)	Density 2 (600dpi)		5 (–450V)
3:DENS3(600)	Density 3 (600dpi)		5 (–450V)
4:DENS4(600)	Density 4 (600dpi)		5 (–450V)
5:DENS5(600)	Density 5 (600dpi)		7 (–500V)
6:TS(600)	Toner save (600dpi)		3 (–400V)
7:DENS1(1200)	Density 1 (1200dpi)		*Disabled*
8:DENS2(1200)	Density 2 (1200dpi)		*Disabled*
9:DENS3(1200)	Density 3 (1200dpi)		*Disabled*
10:DENS4(1200)	Density 4 (1200dpi)		*Disabled*
11:DENS5(1200)	Density 5 (1200dpi)		*Disabled*

NO.	Set value	Grid High	Grid Low
1	480	–480V	–350V
2	505	–505V	–375V
3	530	–530V	–400V
4	555	–555V	–425V
5	580	–580V	–450V
6	605	–605V	–475V
7	630	–630V	–500V
8	655	–655V	–525V

*1. The negative value of the set value corresponds to the grid high output voltage.

*2. The set values can be selected from the above 8 patterns only.

*3. The selected pattern determines the grid high voltage and the grid low voltage.
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

9

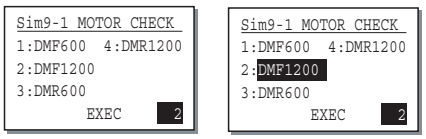
9-1

Purpose	Operation test/check
Function (Purpose)	Used to check and adjust the operation of the load (motor) in the duplex section and the control circuit.
Section	Duplex
Item	Operation

Operation/procedure

Select with the 10-key and operate for 30 seconds.

(Initial screen) (Executing screen)



1:DMF600	Duplex motor forward rotation (600dpi)	
2:DMF1200	Duplex motor forward rotation (1200dpi)	*Disabled*
3:DMR600	Duplex motor reverse rotation (600dpi)	
4:DMR1200	Duplex motor reverse rotation (1200dpi)	*Disabled*

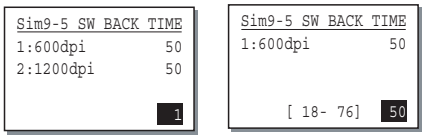
9-5

Purpose	Adjustment
Function (Purpose)	Used to adjust the switch back time of the duplex motor.

Operation/procedure

Set the switch back time of the duplex motor.

(Initial screen) (Input screen)



Display items	Installation range	Default
1:600dpi	18-76	50
2:1200dpi		*Disabled*

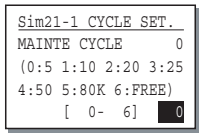
21

21-1

Purpose	Setting	
Function (Purpose)	Used to set the maintenance cycle.	
Item	Specifications	Counter

Operation/procedure

Enter the adjustment value and press the [OK] key.



Item	Content	Setting range	Default
0	*5K (5000 sheets)*	*0-6*	*4*
1	*10K (10000 sheets)*		
2	*20K (20000 sheets)*		
3	*25K (25000 sheets)*		
4	*50K (50000 sheets)*		
5	*80K (80000 sheets)*		
6	*FREE*		

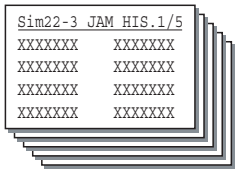
22

22-3

Purpose	Adjustment/setting/operation data output/check (display/print)	
Function (Purpose)	Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)	
Item	Trouble	Mis-feed

Operation/procedure

The misfeed history is displayed in the sequence of recentness by the name of sensors and detectors. Max. 40 items of information can be stored in memory. (The old ones are deleted sequentially.) The trouble section may be determined by the data.



Error code	Name	Sensor name	Paper Reached/Not reached to Sensor
1ST_PICK	1st cassette pickup mistake	1st cassette P-IN sensor	Not reached *1
2ND_PICK	2nd cassette pickup mistake	2nd cassette paper pass sensor	Not reached *1
3RD_PICK	3rd cassette pickup mistake	3rd cassette paper pass sensor	Not reached *1
4TH_PICK	4th cassette pickup mistake	4th cassette paper pass sensor	Not reached *1
HND_PICK	Multi manual feed pickup mistake	Manual feed P-IN sensor	Not reached
PIN_TOP	P-IN sensor lead edge jam	2nd cassette paper pass sensor	Reached (from 2nd cassette only)
		P-IN sensor or manual feed P-IN sensor	Not reached
PIN_END	P-IN sensor rear edge jam	P-IN sensor	Reached (1st cassette)
		Manual feed P-IN sensor	Reached (2, 3, 4, DUP, manual feed)
PIN_DUP	P-IN sensor reversion jam	Manual feed P-IN sensor	Not reached (DUP)
DPX_TOP	Duplex sensor lead edge jam	P-IN sensor or manual feed P-IN sensor	Reached
		DUP sensor (Paper exit sensor)	Not reached
DPX_END	Duplex sensor rear edge jam	P-OUT sensor (1st paper exit sensor)	Reached
		DUP sensor (Paper exit sensor)	Either of Reached/Not reached
UPO_TOP	2nd paper exit lead edge jam	DUP sensor (Paper exit sensor)	Reached
		P-OUT sensor (2nd paper exit sensor)	Not reached
UPO_END	2nd paper exit rear edge jam	P-OUT sensor (2nd paper exit jam)	Reached
		FIN_P_IN sensor	Not reached
LPO_TOP	1st paper exit lead edge jam	DUP sensor	Reached
		P-OUT sensor (1st paper exit sensor)	Not reached
LPO_END	1st paper exit rear edge jam	P-OUT sensor (1st paper exit sensor)	Reached
PS	Abnormality between PS paper		
2ND_TOP	2nd paper pass lead edge jam *2	3rd (4th) cassette paper pass sensor	Reached (from 3rd, 4th cassette only)
3RD_TOP	3rd paper pass lead edge jam *3	4th cassette paper pass sensor	Reached (from 4th cassette only)
4th_TOP, END	4th paper pass jam		Does not occur.
DPX_SHORT	Duplex short size error		*4
DPX_LONG	Duplex long size error		*4
FIN_PIN	Finisher paper in jam	FIN_P_IN sensor	Reached
FIN_ESCP	Escape (upper stage) tray jam	FIN_ESC sensor	Reached *5
FIN_OFST	Offset (lower stage) tray jam	FIN_P_OFSET sensor	Reached
FIN_STPL	Staple tray jam	FIN_STPL sensor	Reached

**1. Not reached, double fed and the next paper reached the paper-in sensor.*

**2. Detects that paper from 3rd (4th) stage enters 2nd stage.*

**3. Detects that paper from 4th stage enters 3rd stage.*

**4. The passing time over P-IN sensor (manual feed P-IN sensor) of the front surface differs greatly from that of the back surface.*

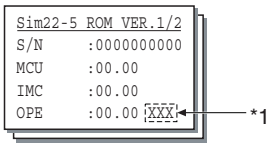
**5. Occurs when not reached either of FIN_ESC sensor and FIN_P_OFSET sensor.*

22-5

Purpose	Adjustment/Setting/Check
Function (Purpose)	Used to check the ROM version of each unit (section).
Item	Software

Operation/procedure

ROM and CPU data of each section are displayed.



[Display example]

ROM version 1.250 → [1.25] (upto 2 decimal places)

The display of the protocol monitor and the soft SW follows this display.

S/N	Machine serial number	PRINTER	PRINTER
MCU	Main Control Unit	NIC	NIC
IMC	IMC	FINISHER	FINISHER
OPE	*Panel + Panel label code *1*	FAX	FAX

When not installed, "- - - - - - - - - -" is displayed.

**1: The LCD backlight PWB attachment label code is displayed in three ASCII characters after the version display of 10PE (panel). (Display, XXX section)*

** Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

[Label code display content]

Display XXX section content

Panel display	Destination	Selection code		Panel software support language
E/F	SEC	AJ/AM		American English, French
	SECL	AL/AC		
JP	Japan			Japanese
BG	Other Europe distributors	BG/BD		English, French, German, Italian, Dutch, Spanish、Portuguese
	AB series agents	BE/BT	UH1/UQ3/UQ2/SF4/UE1/UE4/UW2/SL4/UE6	
GG	SEEG	CG/GD		English, German, Turkish, Greek, Polish, Hungarian, Czech
DG	SES	DG/DD		English, German, Swedish, Finnish, Norwegian, Danish
CHN	China distributors	BE/BT	UE5	Chinese
E/S	SCA/SCNZ	BA/BN		English, Spanish
	SUK	BK/BB		
	Philippine	AE/AT	UG2	
	LAG2/LAG4	AE/AT	UB5/SF2	
E/R				English, Russian
TW	Taiwan	BE/BT		English, Taiwanese
F/E	SMEF	BE/BT	SF1 *2	English, French
GGR				English, German, Turkish, Greek, Polish, Hungarian, Czech, Russian
– – –				Not defined

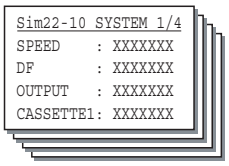
**2: AB series agents (SRH (Hong Kong), Brazil, Saudi Arabia, STCL, Indonesia, South Africa, Special Countries, Yemen, Cyprus, Oman, Qatar, Barren, Kuwait, UAS, SRS, SRSSC)*

22-10

Purpose	Adjustment/setting/operation data output/check (display/print)	
Function (Purpose)	Used to check the system configuration.	
Item	Specifications	Option

Operation/procedure

The detected machine composition is displayed.



Display items	Display items
SPEED	23CPM/27CPM/25CPM/18CPM/20CPM
DF	NONE/[1: SPF]/[2: RSPF]
OUTPUT	NONE/[3: Finisher]/[4: Job separator]
CASSETTE1	NONE/[5: One-step paper feed unit]
CASSETTE2	NONE/[6: Two-step paper feed unit]
IMC MEM	*0/Expansion memory capacity (MB)*
PRINTER	NONE/[7: PCL]
PS3	NONE/[8: PS3]
NIC	NONE/[9: NIC]
SCANNER	NONE/[10: SCANNER]
FAX	NONE/[11: FAX]
FAX MEM	NONE/Memory capacity (MB)
HAND SET	NONE/[12: Handset]

NONE: "- - - - - - - - -" is displayed.

[ ]: Shows the product code in the list below.

No.	Item	Model code	
		AR model	DM model
1	SPF	*AR-SP4N*	DM-SP2
2	RSPF	*AR-RP3N*	DM-RP1
3	Finisher	*AR-FN5N*	DM-FN1
4	Job separator	AR-TR3	STANDARD
5	1 tray paper feed unit	*AR-D11N (*1)*	DM-DE3 (*1)
6	2 tray paper feed unit	*AR-D12N (*1)*	DE-DE4 (*)
7	PRINTER	*PCL: AR-P11 (*2)* *GDI: AR-EB4 (*2)*	STANDARD
8	PS3	AR-PK1	STANDARD
9	NIC	AR-NC5J	STANDARD
10	SCANNER	AR-NS2	DM-NS1
11	FAX	AR-FX4	DM-FX2
12	Handset	AR-HN4	–

**1: Installed quantity is displayed in ( ).*
For the cassettes, only the option cassette is displayed.

**2: When the GDI is installed, the GDI model code is displayed. When the PCL is installed, the PCL model code is displayed.*

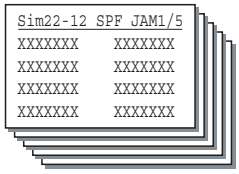
** Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

22-12

Purpose	Adjustment/setting/operation data output/check (display/print)	
Function (Purpose)	Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)	
Section	SPF	
Item	Trouble	Mis-feed

Operation/procedure

Fourty SPF JAM history datas are displayed sequentially from the latest.



Error code	Name	Sensor name	Paper Reached/ Not reached to Sensor
PI_TOP	SPF paper-in lead edge jam	SPF P-IN sensor	Not reached
PI_END	SPF paper-in rear edge jam	SPF P-IN sensor	Reached
JAM_REV	SPF duplex reversion jam	SPF P-IN sensor	Not reached (paper after reversion)
PO_TOP	SPF paper-out lead edge jam	SPF P-IN sensor	Reached, P-OUT not reached
PO_END	SPF paper-out rear edge jam	SPF P-OUT sensor	Reached, P-IN is passed (OFF).
ORG_LONG	SPF long size error	SPF P-OUT sensor	Reached
		SPF P-IN sensor	Reached
ORG_SHORT	SPF short size error	SPF P-IN sensor	Pass (OFF at JAM)

24

24-15

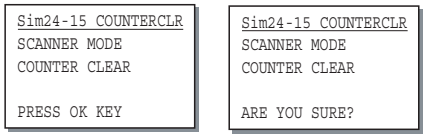
Purpose	Data clear
Function (Purpose)	Used to clear the scanner mode counter.
Item	Counter

Operation/procedure

Press the [OK] key.

The scanner mode counter and the number of send of the scanner are cleared.

(Initial screen) (Process check screen)



* *Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

25

25-1

Purpose	Operation test/check
Function (Purpose)	Used to check the operation of the main drive (excluding the scanner section) and to check the operation of the toner concentration sensor. (The toner concentration sensor output can be monitored.)
Section	DRIVE
Item	Operation

Operation/procedure

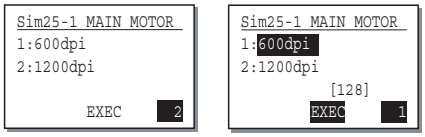
The operation of the drive system is checked.

Toner density control sensor value is displayed.

Select the mode with the 10-key and press the [OK] key, and the main motor will rotate and the toner concentration control sensor value will be displayed.

After execution, interruption cannot be made for about 7 sec. ([CA] key, [INTERRUPT] key, and [BACK] key are invalid.)

(Initial screen) (Executing screen)



* *1200dpi: Disabled*

* *Even though in toner END, if no other error (including cover open) occurs after supplying power, execution of this command is allowed.*

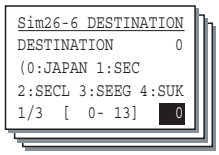
26

26-6

Purpose	Setting	
Function (Purpose)	Used to set the specifications depending on the destination.	
Item	Specifications	Destination

Operation/procedure

Select the destination.



Display items	Content	Setting range	Default
0:JAPAN	Japan	0-13	0
1:SEC	SEC		
2:SECL	SECL		
3:SEEG	SEEG		
4:SUK	SUK		
5:SCA	SCA		
6:SEF	SEF		
7:INEG	EX inch series		
8:ABEG	EX AB series		
9:INEF	EX inch series (FC)		
10:ABEF	EX AB series (FC)		
11:CHINESE	China		
12:TAIWAN	Taiwan		
13:SEEG2	SEEG2		

26-12

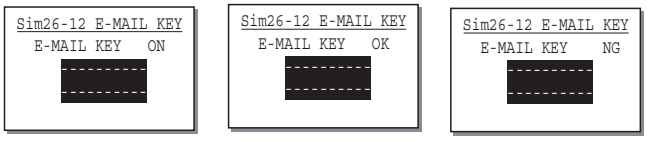
Function (Purpose)	Used to input the Software Key for E-MAIL RIC.

Operation/procedure

The current setup is displayed with ON or OFF.

Enter an input (20 digits) of the E-MAIL RIC soft key and press the [OK] key, and the collating result is displayed with OK or NG.

(Initial screen) (In case of OK) (In case of NG)



After canceling the simulation, if OK, the E-MAIL RIC function is enable; if NG, the E-MAIL RIC function is disabled.

This setting must be reset after the simulation cancel.

* *Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when the PCL/NIC is installed.

26-14

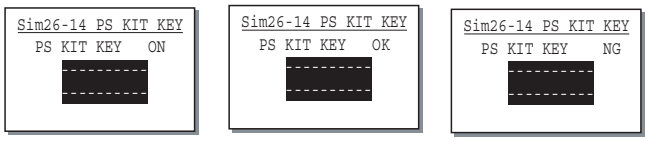
Function (Purpose)	Used to input the Software Key for the PS extension kit.

Operation/procedure

The current setup is displayed with ON or OFF.

Enter an input (20 digits) of the PS expansion kit soft key and press the [OK] key, and the collating result is displayed with OK or NG.

(Initial screen) (In case of OK) (In case of NG)



After canceling the simulation, if OK, the PS expansion kit function is enable; if NG, the PS expansion kit function is disabled.

This setting must be reset after the simulation cancel.

* *Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when the PCL/PS3 is installed.

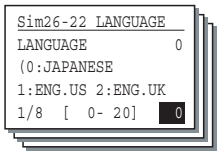
26-22

Purpose	Setting
Function (Purpose)	Used to set the specification (language display) for the destination.
Item	Specifications

Operation/procedure

Select the language to be used according to the table below.

This setup varies in connection with SIM 26-6 (Destination setup).



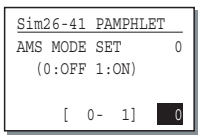
Display items		Setting range	Default
0:JAPANESE	11:GREEK	0-20	1
1:ENG.US	12:POLISH		
2:ENG.UK	13:HUNGARIAN		
3:FRENCH	14:CZECH		
4:GERMAN	15:RUSSIAN		
5:ITALIAN	16:FINNISH		
6:DUTCH	17:NORWEGIAN		
7:SWEDISH	18:DANISH		
8:SPANISH	19:CHINESE		
9:PORTUGUESE	20:TAIWANESE		
10:TURKISH	–		

26-41

Purpose	Setting
Function (Purpose)	Used to set whether the automatic magnification ratio select (AMS) is always ON or not when setting the pamphlet (center binding) function.
Item	Operation

Operation/procedure

AMS mode is set when setting the pamphlet (center binding) function.



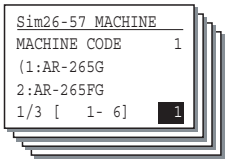
Display items	Content	Setting range	Default
0:OFF	AMS is not set automatically.	0-1	0
1:ON	AMS is set automatically.		

26-57

Purpose	Setting
Function (Purpose)	Used to set the model code.
Item	Operation

Operation/procedure

Input the set value with the 10-key and press the [OK] key.



Display items	Setting range	Default
1:AR-265G	*1-6*	1
2:AR-265FG		
3:AR-5127		
4:AR:265S		
5:AR-265FP		
6:AR-M208		

If a model different from CPM setup (22cpm or 27cpm) of BOOT is set, a system error will occur after canceling the simulation.

43

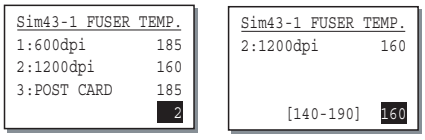
43-1

Purpose	Setting
Function (Purpose)	Used to set the fusing temperature in each operation mode.
Section	Fixing (Fusing)
Item	Operation

Operation/procedure

After the mode selection, enter the adjustment value and press the [OK] key.

(Initial screen) (Input screen)



Display items	Content	Setting range	Default
1:600dpi	600dpi	155-190	185
2:1200dpi	1200dpi	140-190	*Disabled*
3:POST CARD	Postcard	155-190	185

44

44-34

Purpose	Adjustment
Function (Purpose)	Used to adjust the transfer current value.

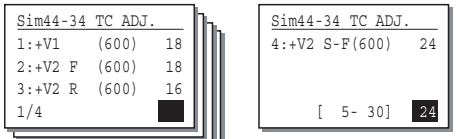
Operation/procedure

To support an individual necessity in paper and the environment, it is variable in the range of 5 to 30uA in the increment of 1uA in each mode.

When changing +V2, check with +V1 unchanged. If there is any trouble in the half tone image of graphics, keep the relationship between +V1 and +V2 at the default and change it.

When the image quality is deteriorated because the user selects the OHP mode and use other than the recommended OHP, decrease the transfer current to adjust deterioration of black background picture quality. If some of characters are not printed, increase the transfer current.

(Initial screen) (Input/Executing screen)



Display items	Content	Setting range	Default
1:+V1 (600)	600dpi +V1	5-30	*18*
2:+V2 F (600)	600dpi +V2 front surface	5-30	*18*
3:+V2 R (600)	600dpi +V2 back surface	5-30	*16*
4:+V2 S-F(600)	600dpi +V2 small size front	5-30	*24*
5:+V2 S-R(600)	600dpi +V2 small size back	5-30	*18*
6:+V2 OHP(600)	600dpi +V2OHP	5-30	*20*
7:+V1 (1200)	1200dpi +V1	5-30	*Disabled*
8:+V2 F (1200)	1200dpi +V2 front surface	5-30	*Disabled*
9:+V2 R (1200)	1200dpi +V2 back surface	5-30	*Disabled*
10:+V2 S-F(1200)	1200dpi +V2 small size front	5-30	*Disabled*
11:+V2 S-R(1200)	1200dpi +V2 small size back	5-30	*Disabled*
12:+V2 OHP(1200)	1200dpi +V2OHP	5-30	*Disabled*

46

46-2

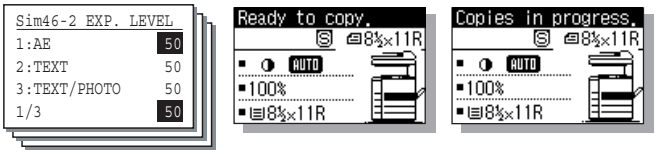
Purpose	Adjustment	
Function (Purpose)	Used to adjust the copy exposure level.	
Item	Picture quality	Density

Operation/procedure

Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)



(Auto adjustment)

Display items	Content		Setting range	Default
1:AE	AE		1-99	50
2:TEXT	Character	Level 3.0		
3:TEXT/PHOTO	Character/Photo	Level 3.0		
4:PHOTO	Photo	Level 3.0		
5:SUPER PHOTO *	Super photo	Level 3.0		*Disabled*
6:AE(TS)	AE (TS)			50
7:TEXT(TS)	Character (TS)	Level 3.0		
8:TEXT/PHOTO(TS)	Character/Photo (TS)	Level 3.0		

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

* *SUPER PHOTO (5:) cannot be executed.*
When [OK] or [START] key is pressed, a caution buzzer sounds. (Only the adjustment value can be entered.)

46-18

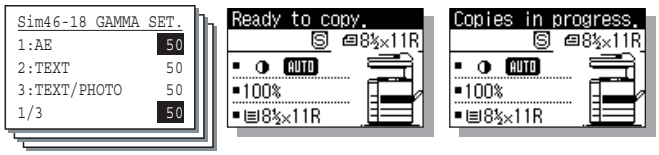
Purpose	Adjustment
Function (Purpose)	Used to adjust the copy contrast. (Inclination)
Item	Picture quality

Operation/procedure

Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)



(Auto adjustment)

Display items	Content		Setting range	Default
1:AE	AE		1-99	50
2:TEXT	Character	Level 3.0		
3:TEXT/PHOTO	Character/Photo	Level 3.0		
4:PHOTO	Photo	Level 3.0		
5:SUPER PHOTO *	Super photo	Level 3.0		*Disabled*
6:AE(TS)	AE(TS)			50
7:TEXT(TS)	Character (TS)	Level 3.0		
8:TEXT/PHOTO(TS)	Character/Photo (TS)	Level 3.0		

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

* *SUPER PHOTO (5:) cannot be executed.*
When [OK] or [START] key is pressed, a caution buzzer sounds. (Only the adjustment value can be entered.)

46-19

Purpose	Adjustment
Function (Purpose)	Used to change the image quality in the exposure mode.
Item	Picture quality

Operation/procedure

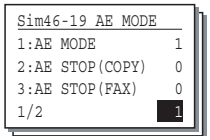
Select the mode with the 10-key and press the [OK] key.
Enter the adjustment value with the 10-key and press the [OK] key, and the entered value is registered.
Pressing the [BACK] key returns to the mode selection.

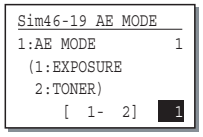
Auto exposure mode

- When SIM 26-6 (Destination setup) is changed from EX to Japan, the setup value becomes 1 (Default: Japan). If, on the contrary, it is changed from Japan to EX, the set value becomes 2 (Default: EX)

• If the auto exposure mode setup value is changed, the setup value of SIM 46-30 (AE limit setup) is reset to the default value.

(Initial screen) (Input screen)





Display items	Content	Default
1:AE MODE (1:EXPOSURE 2:TONER)	Auto exposure mode (1: Priority on Image quality, 2: Priority on toner consumption)	2
2:AE STOP(COPY) (0:FIXED 1:REAL TIME)	Auto exposure STOP mode (COPY) (0: Fixed, 1: Real-time)	0
3:AE STOP(FAX) (0:FIXED 1:REAL TIME)	Auto exposure STOP mode (FAX) (0: Fixed, 1: Real-time)	0
4:AE STOP(SCAN) (0:FIXED 1:REAL TIME)	Auto exposure STOP mode (SCANNER) (0: Fixed, 1: Real-time)	0
5:1200dpi PHOTO (1:SOFT 2:HARD)	1200dpi photo mode (Countermeasures for claims on dither) (1: Soft mode, 2: Hard mode)	*Disabled*

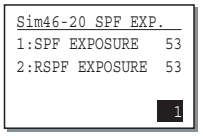
46-20

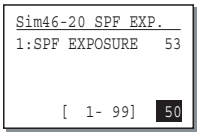
Purpose	Adjustment
Function (Purpose)	Used to correct SPF exposure.
Item	Picture quality

Operation/procedure

Select the mode with the 10-key and press the [OK] key.
Enter the adjustment value with the 10-key and press the [OK] key, and the entered value is registered.
Pressing the [BACK] key returns to the mode selection.

(Initial screen) (Input screen)





Display items	Content	Setting range	Default
1:SPF EXPOSURE	SPF	1-99	*53*
2:RSPF EXPOSURE	RSPF		

50

50-1

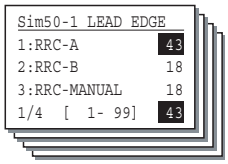
Purpose	Adjustment	
Function (Purpose)	Used to adjust the copy lead edge position.	
Item	Picture quality	Image position

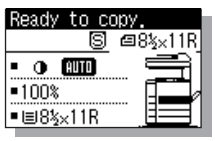
Operation/procedure

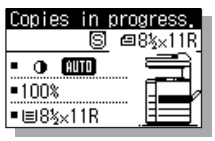
Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)







Display items	Content	Setting range	Default	*Remark*
1:RRC-A	Original scan start position adjustment	1-99	43	*Tray selection: Made by user.*
2:RRC-B	Lead edge cancel adjustment (Main cassette)	1-99	18	*Tray selection: Main cassette is specified.*
3:RRC-MANUAL	Lead edge cancel adjustment (Manual feed cassette)	1-99	18	*Tray selection: Manual feed cassette is specified.*
4:RRC-OPTION	Lead edge cancel adjustment (Option cassette)	1-99	18	*Tray selection: 2nd cassette is specified.*
5:RRC-DUPLEX	Lead edge cancel adjustment (back of the machine)	1-99	18	*Tray selection: Made by user.*
6:DEN-B	Rear edge void adjustment	1-99	30	*Tray selection: Made by user.*
7:DEN-B-DUP	Rear edge void adjustment (Duplex)	1-99	50	*Tray selection: Made by user.*
8:SIDE VOID	Left edge void adjustment (First print surface)	1-99	18	*Tray selection: Made by user.*
9:SIDE VOID-DUP	Left edge void adjustment (Duplex)	1-99	18	*Tray selection: Made by user.*
10:LOSS(OC)	Image loss quantity adjustment	1-5	3	*Tray selection: Made by user.*

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

50-5

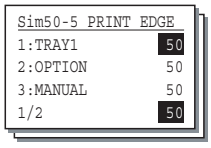
Purpose	Adjustment	
Function (Purpose)	Used to adjust the print image position (top margin) on the print paper in the print mode.	
Item	Picture quality	Print area

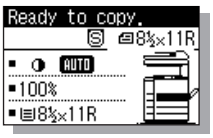
Operation/procedure

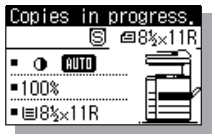
Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)







Display items	Content	Setting range	Default	*Remark*
1:TRAY1	1st cassette	0-99	53	*Tray selection: 1st cassette is specified.*
2:OPTION	Option cassette	1-99		*Tray selection: 2nd cassette is specified.*
3:MANUAL	Manual feed			*Tray selection: Manual feed cassette is specified.*
4:DUPLEX	Back print			*Tray selection: Made by user.*

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

50-6

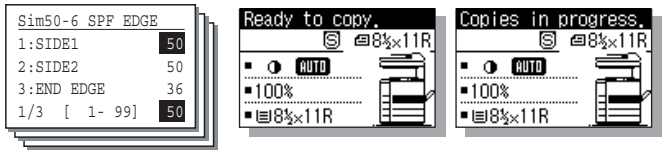
Purpose	Adjustment	
Function (Purpose)	Used to adjust the print image position (top margin) on print paper in the copy mode. (SPF/RSPF)	
Item	Picture quality	Image position

Operation/procedure

Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)



Display items	Content	Setting range	Default
1:SIDE1	Surface original scan start position adjustment value	1-99	50
2:SIDE2	Back original scan start position set value	1-99	50
3:END EDGE	Rear edge void adjustment value (SPF)	1-99	*36*
4:LOSS(SIDE1)	Surface image loss quantity set value	1-5	3
5:LOSS(SIDE2)	Back image loss quantity set value	1-5	3
6:REARLOS(SIDE1)	Surface rear edge image loss quantity set value	1-5	3
7:REARLOS(SIDE2)	Back rear edge image loss quantity set value	1-5	3

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

50-10

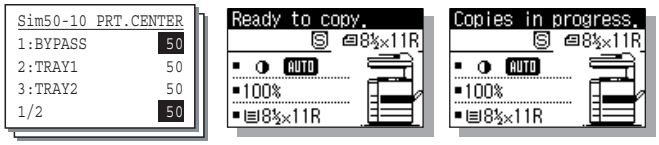
Purpose	Adjustment	
Function (Purpose)	Used to adjust the print image center position. (Adjustment can be made for each paper feed section.)	
Section	Image processing (ICU)	
Item	Picture quality	Image position

Operation/procedure

Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)



Display items	Content	Setting range	Default	*Remark*
1:BYPASS	Manual feed	1-99	50	*Tray selection: Manual feed cassette is specified.*
2:TRAY1	1st cassette			*Tray selection: 1st cassette is specified.*
3:TRAY2	2nd cassette			*Tray selection: 2nd cassette is specified.*
4:TRAY3	3rd cassette			*Tray selection: 3rd cassette is specified.*
5:TRAY4	4th cassette			*Tray selection: 4th cassette is specified.*
6:DUPLEX	Back print			*Tray selection: Made by user.*

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

51

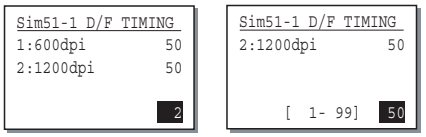
51-1

Purpose	Adjustment
Function (Purpose)	Used to adjust the OPC drum separation pawl ON time.
Section	Image process (Photoconductor/Developing/Transfer/Cleaning)
Item	Operation

Operation/procedure

Enter the adjustment value with the 10-key and press the [OK] key, and the entered value is registered.

(Initial screen) (Input screen)



Display items	Setting range	Default
1:600dpi	1-99	50
2:1200dpi		*Disabled*

51-2

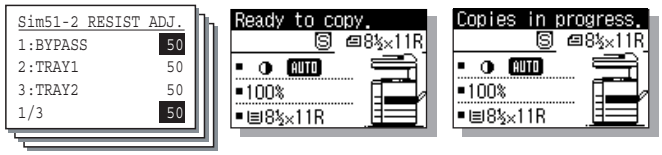
Purpose	Adjustment
Function (Purpose)	Used to adjust the contact pressure of paper onto the resist roller in each section (copier paper feed section, duplex paper feed section, SPF paper feed section). (When the print image position varies greatly for the paper or when a lot of paper jam troubles occur, the adjustment is required.)
Section	Paper transport (Discharge/Switchback/Transport)
Item	Operation

Operation/procedure

Select the mode with the arrow keys, enter the adjustment value with the 10-key, and press the [OK] key.

When the [START] key is pressed, a print is made and the display returns to the mode selection menu.

(Initial screen) (Input screen) (Executing screen)



Display items	Content	Setting range	Default	*Remark*
1:BYPASS	Manual feed	1-99	50	*Tray selection: Manual feed cassette is specified.*
2:TRAY1	1st cassette	1-99	50	*Tray selection: 1st cassette is specified.*
3:TRAY2	2nd cassette	1-99	50	*Tray selection: 2nd cassette is specified.*
4:TRAY3	3rd cassette	1-99	50	*Tray selection: 3rd cassette is specified.*
5:TRAY4	4th cassette	1-99	50	*Tray selection: 4th cassette is specified.*
6:DUPLEX	Back print	1-99	50	*Tray selection: Made by user.*
7:SPF(SIDE1)	SPF front surface	1-99	50	*Tray selection: Made by user.*
8:SPF(SIDE2)	SPF back surface			*Tray selection: Made by user.*

Setup of various copy conditions: Similar to the normal copy mode.

Use of [SPECIAL FUNCTION] key, [JOB STATUS] key, and [INTERRUPT] key is inhibited.

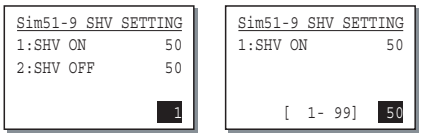
51-9

Purpose	Adjustment
Function (Purpose)	Used to adjust ON/OFF timing of the separation voltage.
Item	Adjustment

Operation/procedure

Used to adjust ON/OFF timing of the separation voltage.

(Initial screen) (Input screen)



Display items	Content	Setting range	Default
1:SHV ON	Separation voltage ON timing * Transfer V2ON reference (synchronized with the adjustment value of 50)	25-90	50
2:SHV OFF	Separation voltage OFF timing * Transfer V2OFF reference (synchronized with the adjustment value of 50)	50-90	75

53

53-8

Purpose	Adjustment
Function (Purpose)	Used to adjust the mirror unit SPF scan position automatically. For the SPF scan position auto adjustment, the mirror unit is shifted to 11mm before the SPF glass cover edge and is moved by self-boost, and images are scanned in each step, and the position from the glass cover edge is automatically detected. [Adjustment value] Default: 50 Setting range: 1 to 99 Adjustment unit 1 = about 0.127mm

Operation/procedure

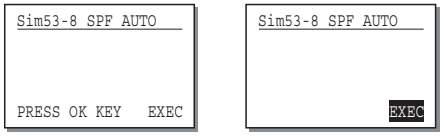
Keep the OC cover open for execution of this test command.

If the adjustment is normally completed, the adjusted value is displayed and written into the EEPROM.

If the adjustment is abnormal, "ERR" is displayed and the value is not written into the EEPROM.

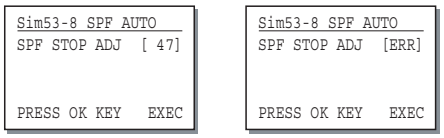
For that which is not adjusted because of abnormality, "---" is displayed.

(Initial screen) (Executing screen)



"EXEC" is highlighted during execution.

(Normal end screen) (Abnormal end display)



64

64-1

Purpose	Operation test/check
Function (Purpose)	Self print Key input = 1 Self print is performed in the 2-by-4 mode (2-line print and 4-line non-print). Key input = 2 Grid print is performed. (1cm, 1-dot width WLT/A3 print (A3 main scan, WLT sub scan))
Section	Printer
Item	Operation

Operation/procedure

Enter a figure with the 10-key.

[When key input = 1]

Self print is performed in the 2-by-4 mode

Since scanning is not performed, if a document is set on the SPF, the START key is invalid.

* Duplex print is invalid.

[When key input = 2]

Grid print is performed. (1cm, 1-dot width WLT/A3 print (A3 main scan, WLT sub scan))

If the IMC board is not installed, key input cannot be made.

* Duplex print is allowed.

[7-seg LED display]

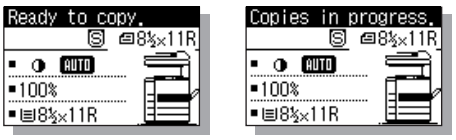
1: Self print (2-by-4) mode

2: Grid print mode

Pressing the [START] key makes a print by 2 by 4 mode. After completion of printing, the menu returns to the initial menu.

Pressing the [CA] key cancels the simulation mode.

(Input screen) (Executing screen)



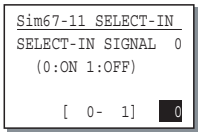
67

67-11

Purpose	Setting
Function (Purpose)	Used to set the Select-IN signal.

Operation/procedure (Pattern 1)

Enter the adjustment value with the 10-key and press the [OK] key, and the entered value is registered.



Setting range	0-1
Default	0

** Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when the PCL is installed.

67-14

Function (Purpose)	Used to check write/comparison of flash programs.

Operation/procedure

Download PCL.

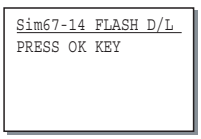
Pressing the [OK] key displays "Please Send Data" "Ready" and the data is sent from the PC under the MS-DOS command of FCOPY and the file name.

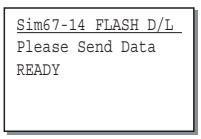
Used to overwrite and check the flash device while displaying its process status.

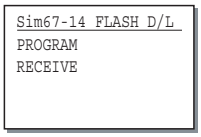
After completion, the result is displayed.

(It takes a little time to display READY.)

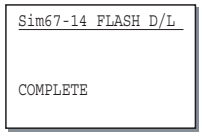
(1) (2) (3)

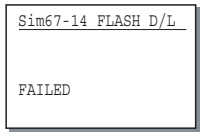






(Normal end screen) (Abnormal end screen)





(Flash Device)	(Processing state)
PROGRAM	RECEIVE
BOOTROM	ERASE
PS KANJI FONT	WRITE
ESC/P KANJI FONT	VERIFY
OPTION FONT	

Press the [CA] key to cancel the simulation and reset.

** Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when the PCL is installed.

67-17

Function (Purpose)	Used to clear NVRAM.

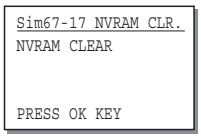
Operation/procedure (Pattern 7)

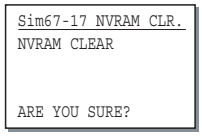
Pressing the [OK] key displays the confirmation message.

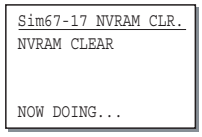
Press the [OK] key again to clear. Press the [BACK] key to interrupt clearing.

If there is no abnormality after Clear operation, "COMPLETE" is displayed. If there is any abnormality, "ERROR" is displayed.

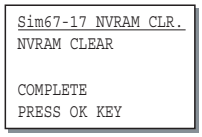
(Initial screen) (Process check screen) (Executing screen)

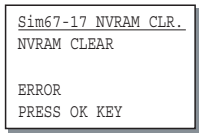






(Normal end screen) (Abnormal end screen)





** Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when the PCL is installed.

67-18

Function (Purpose)	Used to clear the data area for FLASH ROM Network Scanner Application.

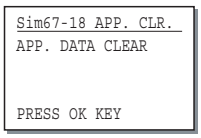
Operation/procedure (Pattern 7)

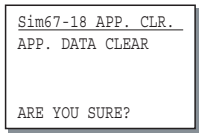
Pressing the [OK] key displays the confirmation message.

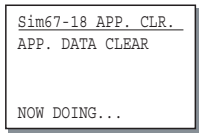
Press the [OK] key again to clear. Press the [BACK] key to interrupt clearing.

If there is no abnormality after Clear operation, "COMPLETE" is displayed. If there is any abnormality, "ERROR" is displayed.

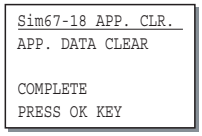
(Initial screen) (Process check screen) (Executing screen)

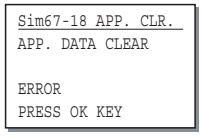






(Normal end screen) (Abnormal end screen)





** Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when the PCL is installed.

67-20

Function (Purpose)	Used to check the network connection when the scan option is installed.

Operation/procedure

The network scanner is checked.

When [OK] key is pressed, "Please Send Data" and "READY" are displayed, and then ftp is booted from MS-DOS.

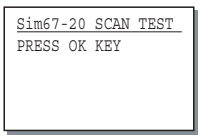
Put the file name, and data are transmitted from the PC.

The process is displayed. Check the display.

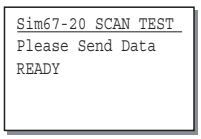
After completion, the result is displayed.

(It takes a little time to display READY.)

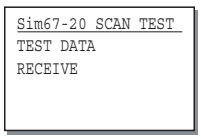
(1)



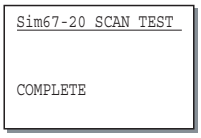
(2)



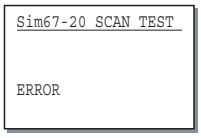
(3)



(Normal end screen)



(Abnormal end screen)



(TEST DATA)
TEST DATA

(Process status)
RECEIVE
TESTING

Pressing [CA] key cancels the simulation resets the operation.

* *Execution is inhibited until GDI or PCL board is securely installed. (Because the board is detected by the software.)*

Note: Executable only when PCL and NIC are installed.

[10] DISASSEMBLY, ASSEMBLY AND MAINTENANCE

1. Maintenance table

N: Check (Check, clean, replace or adjust according to necessity.)

Y: Cleaning R: Replace L: Lubricate

Unit	Parts	50k	100k	150k	200k	250k	300k	Note
Process unit	Drum	R	R	R	R	R	R	
	Cleaning blade	R	R	R	R	R	R	
	Drum frame unit	N	N	N	R	N	N	
	Seal F/R	N	N	N	N	N	N	
	MC unit	R	R	R	R	R	R	Unit supply only (Individual parts in the unit can not be supplied.)
	Separation pawl unit	R	R	R	R	R	R	Unit supply only (Individual parts in the unit can not be supplied.)
DV unit	Developer	R	R	R	R	R	R	
	DV seal	N	N	N	N	N	N	
	Side seal (F/R)	N	N	N	N	N	N	
Fusing unit	Upper heat roller	Y	Y	R	Y	Y	R	
	Lower heat roller	Y	Y	Y	Y	Y	R	
	Upper separation pawl	Y	Y	R	Y	Y	R	
	Lower separation pawl	Y	Y	Y	Y	Y	R	
	Thermistor	Y	Y	Y	Y	Y	Y	
	Upper heat roller gear	L	L	R	L	L	R	
	Upper heat roller bush	N	N	R	N	N	R	
	Lower heat roller bearing	N	N	N	N	N	R	
	Paper guide	Y	Y	Y	Y	Y	Y	
	Cleaning pad	N	N	R	N	N	R	
Paper feed	Pickup roller (Multi bypass tray)	N	N	N	N	N	N	Changing criteria for parts: 50k
	Separation sheet (Multi bypass tray)	N	N	N	N	N	N	Changing criteria for parts: 50k
	Separation roller (Multi bypass tray)	N	N	N	N	N	N	Changing criteria for parts: 50k
	Pickup roller (500 sheets tray)	N	N	N	N	N	N	Changing criteria for parts: 100k
	Separation sheet (500 sheets tray)	N	N	N	N	N	N	Changing criteria for parts: 100k
	Separation roller (500 sheets tray)	N	N	N	N	N	N	Changing criteria for parts: 100k
Transport roller unit	Transport roller unit	Y	R	Y	R	Y	R	Unit supply only (Individual parts in the unit can not be supplied.)
	Gears	R	R	R	R	R	R	
Ozone filter	Ozone filter	R	R	R	R	R	R	
Others	Paper feed rollers	Y	Y	Y	Y	Y	Y	
	Gears	L	L	L	L	L	L	
LSU	Dust-proof glass	N	N	N	N	N	N	Clean only the outer surface of the glass with the developing CRU disassembled (with the LSU attached to the machine).

SHARP®

COPYRIGHT © 2002 BY SHARP CORPORATION

All rights reserved.
Printed.
No part of this publication may be reproduced,
stored in a retrieval system, or transmitted,
in any form or by any means,
electronic; mechanical; photocopying; recording or otherwise
without prior written permission of the publisher.

Trademark Acknowledgments

Microsoft Windows, MS-DOS, Windows NT, Windows 2000 are trademarks of Microsoft Corporation in the U. S. A. and other countries.

Macintosh, Power Macintosh, Mac OS, LaserWriter, and AppleTalk are registered trademarks of Apple Computer, Inc.

IBM, PC/ AT, and PowerPC are trademarks of International Business Machines Corporation.

Pentium is a registered trademark of Intel Corporation.

PCL is a trademark of the Hewlett- Packard Company.

PostScript® is a registered trademark of Adobe Systems Incorporated.

NetWare is a registered trademark of Novell, Inc.

All other trademarks and copyrights are the property of their respective owners.

SHARP CORPORATION
Digital Document System Group
Products Quality Assurance Department
Yamatokoriyama, Nara 639-1186, Japan
2002 July Printed